

## SEQUENCE LISTING

<110> KIKUCHI, YASUFUMI  
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 KINOSHITA, YASUKO  
 IIJIMA, SHIGEYUKI  
 FUKUSHIMA, NAOSHI  
 TSUCHIYA, MASAYUKI

<120> HUMANIZED ANTI-CD47 ANTIBODY

<130> 060641-0113

<140> 10/578,840

<141> 2006-05-10

<150> PCT/JP04/016744

<151> 2004-11-11

<150> JP 2003-381406

<151> 2003-11-11

<160> 121

<170> PatentIn Ver. 3.3

<210> 1

<211> 133

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
 oligonucleotide

<400> 1

cccaagcttc caccatggaa tggagctgga tatttctctt cctcctgtca ggaactgcag 60  
 gtgtccactc ccaggtgcag ctggtgcagt ctggggctga ggtgaagaag cctggggcct 120  
 cagtgaaggt ttc 133

<210> 2

<211> 133

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
 oligonucleotide

<400> 2

ggcttgagtg gatgggatat atttatcctt acaatgatgg tactaagtat aatgagaagt 60  
 tcaaggacag agtcacgatg acccgggaca cgtccacgag cacagtctac atggagttga 120  
 gcagtctcag atc 133

<210> 3  
 <211> 133  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthetic  
 oligonucleotide

<400> 3  
 tgtaaggata aatatatccc atccactcaa gcccttgccc aggggcctgt cgcacccagt 60  
 gaataacatg gttggcgaag gtgtatccag atgccttaca ggaaaccttc actgaggccc 120  
 caggcttctt cac 133

<210> 4  
 <211> 133  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthetic  
 oligonucleotide

<400> 4  
 cgcggatcca ctcacctgag gagacggtga ccagggttcc ttggccccag tcgtcgtaag 60  
 tatagtaacc ccctctagca caataataga cggccgtgtc ctcagatctg agactgctca 120  
 actccatgta gac 133

<210> 5  
 <211> 23  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthetic  
 oligonucleotide

<400> 5  
 cccaagcttc caccatggaa tgg 23

<210> 6  
 <211> 23  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthetic  
 oligonucleotide

<400> 6  
 cgcggatcca ctcacctgag gag 23

<210> 7  
 <211> 424  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthetic  
 plasmid

<220>  
 <221> CDS  
 <222> (1)..(408)

<400> 7  
 atg gaa tgg agc tgg ata ttt ctc ttc ctc ctg tca gga act gca ggt 48  
 Met Glu Trp Ser Trp Ile Phe Leu Phe Leu Leu Ser Gly Thr Ala Gly  
 1 5 10 15  
 gtc cac tcc cag gtg cag ctg gtg cag tct ggg gct gag gtg aag aag 96  
 Val His Ser Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys  
 20 25 30  
 cct ggg gcc tca gtg aag gtt tcc tgt aag gca tct gga tac acc ttc 144  
 Pro Gly Ala Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe  
 35 40 45  
 gcc aac cat gtt att cac tgg gtg cga cag gcc cct gga caa ggg ctt 192  
 Ala Asn His Val Ile His Trp Val Arg Gln Ala Pro Gly Gln Gly Leu  
 50 55 60  
 gag tgg atg gga tat att tat cct tac aat gat ggt act aag tat aat 240  
 Glu Trp Met Gly Tyr Ile Tyr Pro Tyr Asn Asp Gly Thr Lys Tyr Asn  
 65 70 75 80  
 gag aag ttc aag gac aga gtc acg atg acc cgg gac acg tcc acg agc 288  
 Glu Lys Phe Lys Asp Arg Val Thr Met Thr Arg Asp Thr Ser Thr Ser  
 85 90 95  
 aca gtc tac atg gag ttg agc agt ctc aga tct gag gac acg gcc gtc 336  
 Thr Val Tyr Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val  
 100 105 110  
 tat tat tgt gct aga ggg ggt tac tat act tac gac gac tgg ggc caa 384  
 Tyr Tyr Cys Ala Arg Gly Gly Tyr Tyr Thr Tyr Asp Asp Trp Gly Gln  
 115 120 125  
 gga acc ctg gtc acc gtc tcc tca ggtgagtgga tccgcg 424  
 Gly Thr Leu Val Thr Val Ser Ser  
 130 135

<210> 8  
 <211> 40  
 <212> DNA  
 <213> Artificial Sequence

&lt;220&gt;

<223> Description of Artificial Sequence: Synthetic  
oligonucleotide

&lt;400&gt; 8

gacagagtca cgatgacctc agacacgtcc acgagcacag

40

&lt;210&gt; 9

&lt;211&gt; 18

&lt;212&gt; DNA

&lt;213&gt; Artificial Sequence

&lt;220&gt;

<223> Description of Artificial Sequence: Synthetic  
oligonucleotide

&lt;400&gt; 9

ggtcacgcgtg actctgtc

18

&lt;210&gt; 10

&lt;211&gt; 424

&lt;212&gt; DNA

&lt;213&gt; Artificial Sequence

&lt;220&gt;

<223> Description of Artificial Sequence: Synthetic  
plasmid

&lt;220&gt;

&lt;221&gt; CDS

&lt;222&gt; (1)..(408)

&lt;400&gt; 10

atg	gaa	tgg	agc	tgg	ata	ttt	ctc	ttc	ctc	ctg	tca	gga	act	gca	ggt	48
Met	Glu	Trp	Ser	Trp	Ile	Phe	Leu	Phe	Leu	Leu	Ser	Gly	Thr	Ala	Gly	
1				5					10					15		

gtc	cac	tcc	cag	gtg	cag	ctg	gtg	cag	tct	ggg	gct	gag	gtg	aag	aag	96
Val	His	Ser	Gln	Val	Gln	Leu	Val	Gln	Ser	Gly	Ala	Glu	Val	Lys	Lys	
			20					25					30			

cct	ggg	gcc	tca	gtg	aag	gtt	tcc	tgt	aag	gca	tct	gga	tac	acc	ttc	144
Pro	Gly	Ala	Ser	Val	Lys	Val	Ser	Cys	Lys	Ala	Ser	Gly	Tyr	Thr	Phe	
		35					40					45				

gcc	aac	cat	gtt	att	cac	tgg	gtg	cga	cag	gcc	cct	gga	caa	ggg	ctt	192
Ala	Asn	His	Val	Ile	His	Trp	Val	Arg	Gln	Ala	Pro	Gly	Gln	Gly	Leu	
	50					55				60						

gag	tgg	atg	gga	tat	att	tat	cct	tac	aat	gat	ggt	act	aag	tat	aat	240
Glu	Trp	Met	Gly	Tyr	Ile	Tyr	Pro	Tyr	Asn	Asp	Gly	Thr	Lys	Tyr	Asn	
	65				70				75						80	

gag	aag	ttc	aag	gac	aga	gtc	acg	atg	acc	tca	gac	acg	tcc	acg	agc	288
Glu	Lys	Phe	Lys	Asp	Arg	Val	Thr	Met	Thr	Ser	Asp	Thr	Ser	Thr	Ser	
			85					90						95		

aca gtc tac atg gag ttg agc agt ctc aga tct gag gac acg gcc gtc 336  
Thr Val Tyr Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val  
100 105 110

tat	tat	tgt	gct	aga	ggg	ggg	tac	tat	act	tac	gac	gac	tgg	ggc	caa	384
Tyr	Tyr	Cys	Ala	Arg	Gly	Gly	Tyr	Tyr	Thr	Tyr	Asp	Asp	Trp	Gly	Gln	
		115					120					125				

gga acc ctg gtc acc gtc tcc tca ggtgagtgga tccgcg 424  
Gly Thr Leu Val Thr Val Ser Ser  
130 135

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<210> 11
<211> 40
<212> DNA
<213> Artificial Sequence
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<220>  
<223> Description of Artificial Sequence: Synthetic oligonucleotide

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<400> 11
gcacatctggat acacaccttcac caaccatgtt attcactggg 40
```

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<210> 12
<211> 18
<212> DNA
<213> Artificial Sequence
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<220>  
<223> Description of Artificial Sequence: Synthetic  
oligonucleotide

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<400> 12
gaaggtgtat ccagatgc 18
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```
<210> 13
<211> 424
<212> DNA
<213> Artificial Sequence
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<220>
<223> Description of Artificial Sequence: Synthetic
      plasmid
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<220>
<221> CDS
<222> (1) .. (408)
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<400> 13
atg gaa tgg agc tgg ata ttt ctc ttc ctc ctg tca gga act gca ggt 48
Met Glu Trp Ser Trp Ile Phe Leu Phe Leu Leu Ser Gly Thr Ala Gly
      1             5             10             15

```

gtc cac tcc cag gtg cag ctg gtg cag tct ggg gct gag gtg aag aag	96
Val His Ser Gln Val Gln Leu Val Ser Gln Ser Gly Ala Glu Val Lys Lys	
20 25 30	
cct ggg gcc tca gtg aag gtt tcc tgt aag gca tct gga tac acc ttc	144
Pro Gly Ala Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe	
35 40 45	
acc aac cat gtt att cac tgg gtg cga cag gcc cct gga caa ggg ctt	192
Thr Asn His Val Ile His Trp Val Arg Gln Ala Pro Gly Gln Gly Leu	
50 55 60	
gag tgg atg gga tat att tat cct tac aat gat ggt act aag tat aat	240
Glu Trp Met Gly Tyr Ile Tyr Pro Tyr Asn Asp Gly Thr Lys Tyr Asn	
65 70 75 80	
gag aag ttc aag gac aga gtc acg atg acc tca gac acg tcc acg agc	288
Glu Lys Phe Lys Asp Arg Val Thr Met Thr Ser Asp Thr Ser Thr Ser	
85 90 95	
aca gtc tac atg gag ttg agc agt ctc aga tct gag gac acg gcc gtc	336
Thr Val Tyr Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val	
100 105 110	
tat tat tgt gct aga ggg ggt tac tat act tac gac gac tgg ggc caa	384
Tyr Tyr Cys Ala Arg Gly Gly Tyr Thr Tyr Asp Asp Trp Gly Gln	
115 120 125	
gga acc ctg gtc acc gtc tcc tca ggtgagtgga tccgcg	424
Gly Thr Leu Val Thr Val Ser Ser	
130 135	

&lt;210&gt; 14

&lt;211&gt; 39

&lt;212&gt; DNA

&lt;213&gt; Artificial Sequence

&lt;220&gt;

<223> Description of Artificial Sequence: Synthetic  
oligonucleotide

&lt;400&gt; 14

aatgagaagt tcaaggacaa agtcacgatg acctcagac

39

&lt;210&gt; 15

&lt;211&gt; 18

&lt;212&gt; DNA

&lt;213&gt; Artificial Sequence

&lt;220&gt;

<223> Description of Artificial Sequence: Synthetic  
oligonucleotide

<400> 15  
gtccttgaac ttctcatt

18

<210> 16  
<211> 424  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic  
plasmid

<220>  
<221> CDS  
<222> (1)..(408)

<400> 16  
atg gaa tgg agc tgg ata ttt ctc ttc ctc ctg tca gga act gca ggt 48  
Met Glu Trp Ser Trp Ile Phe Leu Phe Leu Leu Ser Gly Thr Ala Gly  
1 5 10 15

gtc cac tcc cag gtg cag ctg gtg cag tct ggg gct gag gtg aag aag 96  
Val His Ser Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys  
20 25 30

cct ggg gcc tca gtg aag gtt tcc tgt aag gca tct gga tac acc ttc 144  
Pro Gly Ala Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe  
35 40 45

gcc aac cat gtt att cac tgg gtg cga cag gcc cct gga caa ggg ctt 192  
Ala Asn His Val Ile His Trp Val Arg Gln Ala Pro Gly Gln Gly Leu  
50 55 60

gag tgg atg gga tat att tat cct tac aat gat ggt act aag tat aat 240  
Glu Trp Met Gly Tyr Ile Tyr Pro Tyr Asn Asp Gly Thr Lys Tyr Asn  
65 70 75 80

gag aag ttc aag gac aaa gtc acg atg acc tca gac acg tcc acg agc 288  
Glu Lys Phe Lys Asp Lys Val Thr Met Thr Ser Asp Thr Ser Thr Ser  
85 90 95

aca gtc tac atg gag ttg agc agt ctc aga tct gag gac acg gcc gtc 336  
Thr Val Tyr Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val  
100 105 110

tat tat tgt gct aga ggg ggt tac tat act tac gac gac tgg ggc caa 384  
Tyr Tyr Cys Ala Arg Gly Gly Tyr Tyr Thr Tyr Asp Asp Trp Gly Gln  
115 120 125

gga acc ctg gtc acc gtc tcc tca ggtgagtgga tccgcg 424  
Gly Thr Leu Val Thr Val Ser Ser  
130 135

<210> 17  
 <211> 39  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthetic  
 oligonucleotide

<400> 17  
 ttcaaggaca gagtcacgct gacctcagac acgtccacg 39

<210> 18  
 <211> 18  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthetic  
 oligonucleotide

<400> 18  
 cgtgactctg tccttgaa 18

<210> 19  
 <211> 424  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthetic  
 plasmid

<220>  
 <221> CDS  
 <222> (1)..(408)

<400> 19  
 atg gaa tgg agc tgg ata ttt ctc ttc ctc ctg tca gga act gca ggt 48  
 Met Glu Trp Ser Trp Ile Phe Leu Phe Leu Leu Ser Gly Thr Ala Gly  
 1 5 10 15  
 gtc cac tcc cag gtg cag ctg gtg cag tct ggg gct gag gtg aag aag 96  
 Val His Ser Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys  
 20 25 30  
 cct ggg gcc tca gtg aag gtt tcc tgt aag gca tct gga tac acc ttc 144  
 Pro Gly Ala Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe  
 35 40 45  
 gcc aac cat gtt att cac tgg gtg cga cag gcc cct gga caa ggg ctt 192  
 Ala Asn His Val Ile His Trp Val Arg Gln Ala Pro Gly Gln Gly Leu  
 50 55 60



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<210> 20
<211> 39
<212> DNA
<213> Artificial Sequence
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<220>
<223> Description of Artificial Sequence: Synthetic
      oligonucleotide
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<400> 20  
gagcagtcctc agatctgacg acacggccgt ctattattg 39

```
<210> 21
<211> 20
<212> DNA
<213> Artificial Sequence
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<220>  
<223> Description of Artificial Sequence: Synthetic  
oligonucleotide

<400> 21  
cgtcagatct gagactgctc 20

```
<210> 22
<211> 424
<212> DNA
<213> Artificial Sequence
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<220>  
<223> Description of Artificial Sequence: Synthetic  
plasmid

&lt;220&gt;

&lt;221&gt; CDS

&lt;222&gt; (1)..(408)

&lt;400&gt; 22

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atg gaa tgg agc tgg ata ttt ctc ttc ctc ctg tca gga act gca ggt 48
Met Glu Trp Ser Trp Ile Phe Leu Phe Leu Leu Ser Gly Thr Ala Gly
  1             5             10             15

```

```

gtc cac tcc cag gtg cag ctg gtg cag tct ggg gct gag gtg aag aag 96
Val His Ser Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys
             20             25             30

```

```

cct ggg gcc tca gtg aag gtt tcc tgt aag gca tct gga tac acc ttc 144
Pro Gly Ala Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe
             35             40             45

```

```

acc aac cat gtt att cac tgg gtg cga cag gcc cct gga caa ggg ctt 192
Thr Asn His Val Ile His Trp Val Arg Gln Ala Pro Gly Gln Gly Leu
             50             55             60

```

```

gag tgg atg gga tat att tat cct tac aat gat ggt act aag tat aat 240
Glu Trp Met Gly Tyr Ile Tyr Pro Tyr Asn Asp Gly Thr Lys Tyr Asn
             65             70             75             80

```

```

gag aag ttc aag gac aga gtc acg atg acc tca gac acg tcc acg agc 288
Glu Lys Phe Lys Asp Arg Val Thr Met Thr Ser Asp Thr Ser Thr Ser
             85             90             95

```

```

aca gtc tac atg gag ttg agc agt ctc aga tct gac gac acg gcc gtc 336
Thr Val Tyr Met Glu Leu Ser Ser Leu Arg Ser Asp Asp Thr Ala Val
             100             105             110

```

```

tat tat tgt gct aga ggg ggt tac tat act tac gac gac tgg ggc caa 384
Tyr Tyr Cys Ala Arg Gly Gly Tyr Tyr Thr Tyr Asp Asp Trp Gly Gln
             115             120             125

```

```

gga acc ctg gtc acc gtc tcc tca ggtgagtgga tccgcg 424
Gly Thr Leu Val Thr Val Ser Ser
             130             135

```

&lt;210&gt; 23

&lt;211&gt; 35

&lt;212&gt; DNA

&lt;213&gt; Artificial Sequence

&lt;220&gt;

<223> Description of Artificial Sequence: Synthetic  
oligonucleotide

&lt;400&gt; 23

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gaagcctggg gcctcagtgc aggtttcctg taagg 35

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<210> 24  
 <211> 39  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthetic  
 oligonucleotide

<400> 24  
 aaccatgtta ttacttggt ggcacaggcc cctggacaa

39

<210> 25  
 <211> 43  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthetic  
 oligonucleotide

<400> 25  
 gatgacctca gacacgtcca tcagcacagc ctacatggag ttg

43

<210> 26  
 <211> 19  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthetic  
 oligonucleotide

<400> 26  
 cactgaggcc ccaggcttc

19

<210> 27  
 <211> 18  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthetic  
 oligonucleotide

<400> 27  
 ccagtgaata acatgggt

18

<210> 28  
 <211> 49  
 <212> DNA  
 <213> Artificial Sequence

&lt;220&gt;

<223> Description of Artificial Sequence: Synthetic  
oligonucleotide

&lt;400&gt; 28

cgcggatcca ctcacctgag gagacggtga ccagggttgc ttggcccca

49

&lt;210&gt; 29

&lt;211&gt; 20

&lt;212&gt; DNA

&lt;213&gt; Artificial Sequence

&lt;220&gt;

<223> Description of Artificial Sequence: Synthetic  
oligonucleotide

&lt;400&gt; 29

ggacgtgtct gaggtcatcg

20

&lt;210&gt; 30

&lt;211&gt; 424

&lt;212&gt; DNA

&lt;213&gt; Artificial Sequence

&lt;220&gt;

<223> Description of Artificial Sequence: Synthetic  
plasmid

&lt;220&gt;

&lt;221&gt; CDS

&lt;222&gt; (1)..(408)

&lt;400&gt; 30

atg	gaa	tgg	agc	tgg	ata	ttt	ctc	ttc	ctc	ctg	tca	gga	act	gca	ggt	48
Met	Glu	Trp	Ser	Trp	Ile	Phe	Leu	Phe	Leu	Leu	Ser	Gly	Thr	Ala	Gly	
1				5					10					15		

gtc	cac	tcc	cag	gtg	cag	ctg	gtg	cag	tct	ggg	gct	gag	gtg	aag	aag	96
Val	His	Ser	Gln	Val	Gln	Leu	Val	Gln	Ser	Gly	Ala	Glu	Val	Lys	Lys	
			20					25					30			

cct	ggg	gcc	tca	gtg	cag	ggt	tcc	tgt	aag	gca	tct	gga	tac	acc	ttc	144
Pro	Gly	Ala	Ser	Val	Gln	Val	Ser	Cys	Lys	Ala	Ser	Gly	Tyr	Thr	Phe	
		35					40					45				

acc	aac	cat	ggt	att	cac	tgg	ctg	cga	cag	gcc	cct	gga	caa	ggg	ctt	192
Thr	Asn	His	Val	Ile	His	Trp	Leu	Arg	Gln	Ala	Pro	Gly	Gln	Gly	Leu	
	50					55				60						

gag	tgg	atg	gga	tat	att	tat	cct	tac	aat	gat	ggt	act	aag	tat	aat	240
Glu	Trp	Met	Gly	Tyr	Ile	Tyr	Pro	Tyr	Asn	Asp	Gly	Thr	Lys	Tyr	Asn	
65					70				75						80	

gag	aag	ttc	aag	gac	aga	gtc	acg	atg	acc	tca	gac	acg	tcc	atc	agc	288
Glu	Lys	Phe	Lys	Asp	Arg	Val	Thr	Met	Thr	Ser	Asp	Thr	Ser	Ile	Ser	
				85					90						95	

aca gcc tac atg gag ttg agc agt ctc aga tct gac gac acg gcc gtc 336  
 Thr Ala Tyr Met Glu Leu Ser Ser Leu Arg Ser Asp Asp Thr Ala Val  
           100                          105                          110

tat tat tgt gct aga ggg ggt tac tat act tac gac gac tgg ggc caa 384  
 Tyr Tyr Cys Ala Arg Gly Gly Tyr Tyr Thr Tyr Asp Asp Trp Gly Gln  
           115                          120                          125

gca acc ctg gtc acc gtc tcc tca ggtgagtggg tccgcg 424  
 Ala Thr Leu Val Thr Val Ser Ser  
           130                          135

<210> 31

<211> 130

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
 oligonucleotide

<400> 31

cccaagcttc caccatgagg ctccctgctc agctcctggg gctgctaata ctctgggtcc 60  
 caggtccag tgggatgtt gtgatgactc agtctccact ctccctgcc gtcacccttg 120  
 gacagccggc 130

<210> 32

<211> 130

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
 oligonucleotide

<400> 32

cagcagaggc caggccaatc tccaaggcgc ctaatttata aagtttccaa ccgattttct 60  
 ggtgtcccag acagattcag cggcagtggg tcaggcactg atttcacact gaaaatcagc 120  
 aggggtggagg 130

<210> 33

<211> 130

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
 oligonucleotide

<400> 33

ggcgccttgg agattggcct ggcctctgct gaaaccaatg taaataggtc tttccattac 60  
 tgtgcacaag gctctgactt gatctgcagg agatggaggc cggctgtcca aggggtgacgg 120  
 gcagggagag 130

<210> 34  
 <211> 130  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthetic  
 oligonucleotide

<400> 34  
 cgcggtacca ctcacgtttg atctccagct tggccccctg gccaaacgtg tacggaacat 60  
 gtgtactttg agagcagtaa taaactccaa catcctcagc ctccaccctg ctgattttca 120  
 gtgtgaaatc 130

<210> 35  
 <211> 23  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthetic  
 oligonucleotide

<400> 35  
 cccaagcttc caccatgagg ctc 23

<210> 36  
 <211> 23  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthetic  
 oligonucleotide

<400> 36  
 cgcggtacca ctcacgtttg atc 23

<210> 37  
 <211> 412  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthetic  
 plasmid

<220>  
 <221> CDS  
 <222> (1)..(396)

&lt;400&gt; 37

atg	agg	ctc	cct	gct	cag	ctc	ctg	ggg	ctg	cta	atg	ctc	tgg	gtc	cca	48
Met	Arg	Leu	Pro	Ala	Gln	Leu	Leu	Gly	Leu	Met	Leu	Trp	Val	Pro		
1				5				10					15			

ggc	tcc	agt	ggg	gat	gtt	gtg	atg	act	cag	tct	cca	ctc	tcc	ctg	ccc	96
Gly	Ser	Ser	Gly	Asp	Val	Val	Met	Thr	Gln	Ser	Pro	Leu	Ser	Leu	Pro	
			20					25					30			

gtc	acc	ctt	gga	cag	ccg	gcc	tcc	atc	tcc	tgc	aga	tca	agt	cag	agc	144
Val	Thr	Leu	Gly	Gln	Pro	Ala	Ser	Ile	Ser	Cys	Arg	Ser	Ser	Gln	Ser	
		35					40					45				

ctt	gtg	cac	agt	aat	gga	aag	acc	tat	tta	cat	tgg	ttt	cag	cag	agg	192
Leu	Val	His	Ser	Asn	Gly	Lys	Thr	Tyr	Leu	His	Trp	Phe	Gln	Gln	Arg	
	50					55					60					

cca	ggc	caa	tct	cca	agg	cgc	cta	att	tat	aaa	gtt	tcc	aac	cga	ttt	240
Pro	Gly	Gln	Ser	Pro	Arg	Arg	Leu	Ile	Tyr	Lys	Val	Ser	Asn	Arg	Phe	
65					70				75					80		

tct	ggg	gtc	cca	gac	aga	ttc	agc	ggc	agt	ggg	tca	ggc	act	gat	ttc	288
Ser	Gly	Val	Pro	Asp	Arg	Phe	Ser	Gly	Ser	Gly	Ser	Gly	Thr	Asp	Phe	
				85				90					95			

aca	ctg	aaa	atc	agc	agg	gtg	gag	gct	gag	gat	gtt	gga	gtt	tat	tac	336
Thr	Leu	Lys	Ile	Ser	Arg	Val	Glu	Ala	Glu	Asp	Val	Gly	Val	Tyr	Tyr	
			100				105					110				

tgc	tct	caa	agt	aca	cat	gtt	ccg	tac	acg	ttt	ggc	cag	ggg	acc	aag	384
Cys	Ser	Gln	Ser	Thr	His	Val	Pro	Tyr	Thr	Phe	Gly	Gln	Gly	Thr	Lys	
		115				120					125					

ctg	gag	atc	aaa	cgtgagtgga	tccgcg											412
Leu	Glu	Ile	Lys													
			130													

&lt;210&gt; 38

&lt;211&gt; 39

&lt;212&gt; DNA

&lt;213&gt; Artificial Sequence

&lt;220&gt;

<223> Description of Artificial Sequence: Synthetic  
oligonucleotide

&lt;400&gt; 38

ccaggccaat ctccaaggct cctaatttat aaagtttcc 39

&lt;210&gt; 39

&lt;211&gt; 18

&lt;212&gt; DNA

&lt;213&gt; Artificial Sequence

&lt;220&gt;

<223> Description of Artificial Sequence: Synthetic  
oligonucleotide

&lt;400&gt; 39

ccttgagat tggcctgg

18

&lt;210&gt; 40

&lt;211&gt; 412

&lt;212&gt; DNA

&lt;213&gt; Artificial Sequence

&lt;220&gt;

<223> Description of Artificial Sequence: Synthetic  
plasmid

&lt;220&gt;

&lt;221&gt; CDS

&lt;222&gt; (1)..(396)

&lt;400&gt; 40

atg	agg	ctc	cct	gct	cag	ctc	ctg	ggg	ctg	cta	atg	ctc	tgg	gtc	cca	48
Met	Arg	Leu	Pro	Ala	Gln	Leu	Leu	Gly	Leu	Leu	Met	Leu	Trp	Val	Pro	
1				5				10						15		

ggc	tcc	agt	ggg	gat	gtt	gtg	atg	act	cag	tct	cca	ctc	tcc	ctg	ccc	96
Gly	Ser	Ser	Gly	Asp	Val	Val	Met	Thr	Gln	Ser	Pro	Leu	Ser	Leu	Pro	
			20					25					30			

gtc	acc	ctt	gga	cag	ccg	gcc	tcc	atc	tcc	tgc	aga	tca	agt	cag	agc	144
Val	Thr	Leu	Gly	Gln	Pro	Ala	Ser	Ile	Ser	Cys	Arg	Ser	Ser	Gln	Ser	
		35				40					45					

ctt	gtg	cac	agt	aat	gga	aag	acc	tat	tta	cat	tgg	ttt	cag	cag	agg	192
Leu	Val	His	Ser	Asn	Gly	Lys	Thr	Tyr	Leu	His	Trp	Phe	Gln	Gln	Arg	
	50					55					60					

cca	ggc	caa	tct	cca	agg	ctc	cta	att	tat	aaa	ggt	tcc	aac	cga	ttt	240
Pro	Gly	Gln	Ser	Pro	Arg	Leu	Leu	Ile	Tyr	Lys	Val	Ser	Asn	Arg	Phe	
65					70					75					80	

tct	ggt	gtc	cca	gac	aga	ttc	agc	ggc	agt	ggg	tca	ggc	act	gat	ttc	288
Ser	Gly	Val	Pro	Asp	Arg	Phe	Ser	Gly	Ser	Gly	Ser	Gly	Thr	Asp	Phe	
				85				90						95		

aca	ctg	aaa	atc	agc	agg	gtg	gag	gct	gag	gat	ggt	gga	ggt	tat	tac	336
Thr	Leu	Lys	Ile	Ser	Arg	Val	Glu	Ala	Glu	Asp	Val	Gly	Val	Tyr	Tyr	
		100					105						110			

tgc	tct	caa	agt	aca	cat	ggt	ccg	tac	acg	ttt	ggc	cag	ggg	acc	aag	384
Cys	Ser	Gln	Ser	Thr	His	Val	Pro	Tyr	Thr	Phe	Gly	Gln	Gly	Thr	Lys	
		115					120					125				

ctg	gag	atc	aaa	cgtgagtgga	tccgcg	412
Leu	Glu	Ile	Lys			
			130			



<210> 41  
 <211> 39  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthetic  
 oligonucleotide

<400> 41  
 gaggatgttg gagtttattt ctgctctcaa agtacacat 39

<210> 42  
 <211> 18  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthetic  
 oligonucleotide

<400> 42  
 ataaactcca acatcctc 18

<210> 43  
 <211> 412  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthetic  
 plasmid

<220>  
 <221> CDS  
 <222> (1)..(396)

<400> 43  
 atg agg ctc cct gct cag ctc ctg ggg ctg cta atg ctc tgg gtc cca 48  
 Met Arg Leu Pro Ala Gln Leu Leu Gly Leu Leu Met Leu Trp Val Pro  
 1 5 10 15

ggc tcc agt ggg gat gtt gtg atg act cag tct cca ctc tcc ctg ccc 96  
 Gly Ser Ser Gly Asp Val Val Met Thr Gln Ser Pro Leu Ser Leu Pro  
 20 25 30

gtc acc ctt gga cag ccg gcc tcc atc tcc tgc aga tca agt cag agc 144  
 Val Thr Leu Gly Gln Pro Ala Ser Ile Ser Cys Arg Ser Ser Gln Ser  
 35 40 45

ctt gtg cac agt aat gga aag acc tat tta cat tgg ttt cag cag agg 192  
 Leu Val His Ser Asn Gly Lys Thr Tyr Leu His Trp Phe Gln Gln Arg  
 50 55 60

cca ggc caa tct cca agg cgc cta att tat aaa gtt tcc aac cga ttt	240
Pro Gly Gln Ser Pro Arg Arg Leu Ile Tyr Lys Val Ser Asn Arg Phe	
65 70 75 80	
tct ggt gtc cca gac aga ttc agc ggc agt ggg tca ggc act gat ttc	288
Ser Gly Val Pro Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe	
85 90 95	
aca ctg aaa atc agc agg gtg gag gct gag gat gtt gga gtt tat ttc	336
Thr Leu Lys Ile Ser Arg Val Glu Ala Glu Asp Val Gly Val Tyr Phe	
100 105 110	
tgc tct caa agt aca cat gtt ccg tac acg ttt ggc cag ggg acc aag	384
Cys Ser Gln Ser Thr His Val Pro Tyr Thr Phe Gly Gln Gly Thr Lys	
115 120 125	
ctg gag atc aaa cgtgagtgga tccgcg	412
Leu Glu Ile Lys	
130	

&lt;210&gt; 44

&lt;211&gt; 39

&lt;212&gt; DNA

&lt;213&gt; Artificial Sequence

&lt;220&gt;

<223> Description of Artificial Sequence: Synthetic  
oligonucleotide

&lt;400&gt; 44

aagacctatt tacattggta ccagcagagg ccaggccaa

39

&lt;210&gt; 45

&lt;211&gt; 20

&lt;212&gt; DNA

&lt;213&gt; Artificial Sequence

&lt;220&gt;

<223> Description of Artificial Sequence: Synthetic  
oligonucleotide

&lt;400&gt; 45

ccaatgtaaa taggtctttc

20

&lt;210&gt; 46

&lt;211&gt; 412

&lt;212&gt; DNA

&lt;213&gt; Artificial Sequence

&lt;220&gt;

<223> Description of Artificial Sequence: Synthetic  
plasmid

&lt;220&gt;

&lt;221&gt; CDS

&lt;222&gt; (1)..(396)

&lt;400&gt; 46

atg	agg	ctc	cct	gct	cag	ctc	ctg	ggg	ctg	cta	atg	ctc	tgg	gtc	cca	48
Met	Arg	Leu	Pro	Ala	Gln	Leu	Leu	Gly	Leu	Leu	Met	Leu	Trp	Val	Pro	
1				5				10					15			

ggc	tcc	agt	ggg	gat	gtt	gtg	atg	act	cag	tct	cca	ctc	tcc	ctg	ccc	96
Gly	Ser	Ser	Gly	Asp	Val	Val	Met	Thr	Gln	Ser	Pro	Leu	Ser	Leu	Pro	
			20					25					30			

gtc	acc	ctt	gga	cag	ccg	gcc	tcc	atc	tcc	tgc	aga	tca	agt	cag	agc	144
Val	Thr	Leu	Gly	Gln	Pro	Ala	Ser	Ile	Ser	Cys	Arg	Ser	Ser	Gln	Ser	
		35				40					45					

ctt	gtg	cac	agt	aat	gga	aag	acc	tat	tta	cat	tgg	tac	cag	cag	agg	192
Leu	Val	His	Ser	Asn	Gly	Lys	Thr	Tyr	Leu	His	Trp	Tyr	Gln	Gln	Arg	
	50					55					60					

cca	ggc	caa	tct	cca	agg	cgc	cta	att	tat	aaa	gtt	tcc	aac	cga	ttt	240
Pro	Gly	Gln	Ser	Pro	Arg	Arg	Leu	Ile	Tyr	Lys	Val	Ser	Asn	Arg	Phe	
65					70					75					80	

tct	ggt	gtc	cca	gac	aga	ttc	agc	ggc	agt	ggg	tca	ggc	act	gat	ttc	288
Ser	Gly	Val	Pro	Asp	Arg	Phe	Ser	Gly	Ser	Gly	Ser	Gly	Thr	Asp	Phe	
				85				90						95		

aca	ctg	aaa	atc	agc	agg	gtg	gag	gct	gag	gat	gtt	gga	gtt	tat	tac	336
Thr	Leu	Lys	Ile	Ser	Arg	Val	Glu	Ala	Glu	Asp	Val	Gly	Val	Tyr	Tyr	
		100					105					110				

tgc	tct	caa	agt	aca	cat	gtt	ccg	tac	acg	ttt	ggc	cag	ggg	acc	aag	384
Cys	Ser	Gln	Ser	Thr	His	Val	Pro	Tyr	Thr	Phe	Gly	Gln	Gly	Thr	Lys	
		115				120					125					

ctg	gag	atc	aaa	cgtgagtgga	tccgcg	412
Leu	Glu	Ile	Lys			
	130					

&lt;210&gt; 47

&lt;211&gt; 39

&lt;212&gt; DNA

&lt;213&gt; Artificial Sequence

&lt;220&gt;

&lt;223&gt; Description of Artificial Sequence: Synthetic oligonucleotide

&lt;400&gt; 47

cctatttaca	ttggtttctg	cagaggccag	gccaatctc	39
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<210> 48  
 <211> 20  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthetic  
 oligonucleotide

<400> 48  
 gaaaccaatg taaataggtc

20

<210> 49  
 <211> 412  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthetic  
 plasmid

<220>  
 <221> CDS  
 <222> (1)..(396)

<400> 49  
 atg agg ctc cct gct cag ctc ctg ggg ctg cta atg ctc tgg gtc cca 48  
 Met Arg Leu Pro Ala Gln Leu Leu Gly Leu Leu Met Leu Trp Val Pro  
 1 5 10 15  
 ggc tcc agt ggg gat gtt gtg atg act cag tct cca ctc tcc ctg ccc 96  
 Gly Ser Ser Gly Asp Val Val Met Thr Gln Ser Pro Leu Ser Leu Pro  
 20 25 30  
 gtc acc ctt gga cag ccg gcc tcc atc tcc tgc aga tca agt cag agc 144  
 Val Thr Leu Gly Gln Pro Ala Ser Ile Ser Cys Arg Ser Ser Gln Ser  
 35 40 45  
 ctt gtg cac agt aat gga aag acc tat tta cat tgg ttt ctg cag agg 192  
 Leu Val His Ser Asn Gly Lys Thr Tyr Leu His Trp Phe Leu Gln Arg  
 50 55 60  
 cca ggc caa tct cca agg cgc cta att tat aaa gtt tcc aac cga ttt 240  
 Pro Gly Gln Ser Pro Arg Arg Leu Ile Tyr Lys Val Ser Asn Arg Phe  
 65 70 75 80  
 tct ggt gtc cca gac aga ttc agc ggc agt ggg tca ggc act gat ttc 288  
 Ser Gly Val Pro Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe  
 85 90 95  
 aca ctg aaa atc agc agg gtg gag gct gag gat gtt gga gtt tat tac 336  
 Thr Leu Lys Ile Ser Arg Val Glu Ala Glu Asp Val Gly Val Tyr Tyr  
 100 105 110  
 tgc tct caa agt aca cat gtt ccg tac acg ttt ggc cag ggg acc aag 384  
 Cys Ser Gln Ser Thr His Val Pro Tyr Thr Phe Gly Gln Gly Thr Lys  
 115 120 125

ctg gag atc aaa cgtgagtgga tccgcg 412  
 Leu Glu Ile Lys  
 130

<210> 50  
 <211> 40  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthetic  
 oligonucleotide

<400> 50  
 cagaagccag gccagtctcc aagactcctg atctacaaag 40

<210> 51  
 <211> 40  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthetic  
 oligonucleotide

<400> 51  
 ggagactggc ctggcttctg cagataccaa tgtaaataagg 40

<210> 52  
 <211> 412  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthetic  
 plasmid

<220>  
 <221> CDS  
 <222> (1)..(396)

<400> 52  
 atg agg ctc cct gct cag ctc ctg ggg ctg cta atg ctc tgg gtc cca 48  
 Met Arg Leu Pro Ala Gln Leu Leu Gly Leu Leu Met Leu Trp Val Pro  
 1 5 10 15

ggc tcc agt ggg gat gtt gtg atg act cag tct cca ctc tcc ctg ccc 96  
 Gly Ser Ser Gly Asp Val Val Met Thr Gln Ser Pro Leu Ser Leu Pro  
 20 25 30

gtc acc ctt gga cag ccg gcc tcc atc tcc tgc aga tca agt cag agc 144  
 Val Thr Leu Gly Gln Pro Ala Ser Ile Ser Cys Arg Ser Ser Gln Ser  
 35 40 45

ctt	gtg	cac	agt	aat	gga	aag	acc	tat	tta	cat	tgg	tat	ctg	cag	aag	192
Leu	Val	His	Ser	Asn	Gly	Lys	Thr	Tyr	Leu	His	Trp	Tyr	Leu	Gln	Lys	
50					55					60						
cca	ggc	cag	tct	cca	aga	ctc	ctg	atc	tac	aaa	ggt	tcc	aac	cga	ttt	240
Pro	Gly	Gln	Ser	Pro	Arg	Leu	Leu	Ile	Tyr	Lys	Val	Ser	Asn	Arg	Phe	
65					70					75					80	
tct	ggt	gtc	cca	gac	aga	ttc	agc	ggc	agt	ggg	tca	ggc	act	gat	ttc	288
Ser	Gly	Val	Pro	Asp	Arg	Phe	Ser	Gly	Ser	Gly	Ser	Gly	Thr	Asp	Phe	
				85					90					95		
aca	ctg	aaa	atc	agc	agg	gtg	gag	gct	gag	gat	ggt	gga	ggt	tat	tac	336
Thr	Leu	Lys	Ile	Ser	Arg	Val	Glu	Ala	Glu	Asp	Val	Gly	Val	Tyr	Tyr	
			100					105					110			
tgc	tct	caa	agt	aca	cat	ggt	ccg	tac	acg	ttt	ggc	cag	ggg	acc	aag	384
Cys	Ser	Gln	Ser	Thr	His	Val	Pro	Tyr	Thr	Phe	Gly	Gln	Gly	Thr	Lys	
		115					120					125				
ctg	gag	atc	aaa	cgtgagt	gga	tccg										412
Leu	Glu	Ile	Lys													
130																

&lt;210&gt; 53

&lt;211&gt; 54

&lt;212&gt; DNA

&lt;213&gt; Artificial Sequence

&lt;220&gt;

<223> Description of Artificial Sequence: Synthetic  
oligonucleotide

&lt;400&gt; 53

cagtctccac tctccctgcc cgtcaccct ggagagccgg cctccatctc ctgc

54

&lt;210&gt; 54

&lt;211&gt; 39

&lt;212&gt; DNA

&lt;213&gt; Artificial Sequence

&lt;220&gt;

<223> Description of Artificial Sequence: Synthetic  
oligonucleotide

&lt;400&gt; 54

gggtggaggc tgatgatgtt ggaatttatt actgctctc

39

&lt;210&gt; 55

&lt;211&gt; 48

&lt;212&gt; DNA

&lt;213&gt; Artificial Sequence

&lt;220&gt;

<223> Description of Artificial Sequence: Synthetic  
oligonucleotide

&lt;400&gt; 55

cagggagagt ggagactgag tcatacacaat atccccactg gagcctgg

48

&lt;210&gt; 56

&lt;211&gt; 22

&lt;212&gt; DNA

&lt;213&gt; Artificial Sequence

&lt;220&gt;

<223> Description of Artificial Sequence: Synthetic  
oligonucleotide

&lt;400&gt; 56

ccaacatcat cagcctccac cc

22

&lt;210&gt; 57

&lt;211&gt; 412

&lt;212&gt; DNA

&lt;213&gt; Artificial Sequence

&lt;220&gt;

<223> Description of Artificial Sequence: Synthetic  
plasmid

&lt;220&gt;

&lt;221&gt; CDS

&lt;222&gt; (1)..(396)

&lt;400&gt; 57

atg	agg	ctc	cct	gct	cag	ctc	ctg	ggg	ctg	cta	atg	ctc	tgg	gtc	cca	48
Met	Arg	Leu	Pro	Ala	Gln	Leu	Leu	Gly	Leu	Leu	Met	Leu	Trp	Val	Pro	
1				5				10					15			

ggc	tcc	agt	ggg	gat	att	gtg	atg	act	cag	tct	cca	ctc	tcc	ctg	ccc	96
Gly	Ser	Ser	Gly	Asp	Ile	Val	Met	Thr	Gln	Ser	Pro	Leu	Ser	Leu	Pro	
			20					25					30			

gtc	acc	cct	gga	gag	ccg	gcc	tcc	atc	tcc	tgc	aga	tca	agt	cag	agc	144
Val	Thr	Pro	Gly	Glu	Pro	Ala	Ser	Ile	Ser	Cys	Arg	Ser	Ser	Gln	Ser	
		35				40					45					

ctt	gtg	cac	agt	aat	gga	aag	acc	tat	tta	cat	tgg	tat	ctg	cag	aag	192
Leu	Val	His	Ser	Asn	Gly	Lys	Thr	Tyr	Leu	His	Trp	Tyr	Leu	Gln	Lys	
	50					55					60					

cca	ggc	cag	tct	cca	aga	ctc	ctg	atc	tac	aaa	ggt	tcc	aac	cga	ttt	240
Pro	Gly	Gln	Ser	Pro	Arg	Leu	Leu	Ile	Tyr	Lys	Val	Ser	Asn	Arg	Phe	
65					70					75					80	

tct	ggt	gtc	cca	gac	aga	ttc	agc	ggc	agt	ggg	tca	ggc	act	gat	ttc	288
Ser	Gly	Val	Pro	Asp	Arg	Phe	Ser	Gly	Ser	Gly	Ser	Gly	Thr	Asp	Phe	
				85				90						95		

aca ctg aaa atc agc agg gtg gag gct gat gat gtt gga att tat tac 336  
 Thr Leu Lys Ile Ser Arg Val Glu Ala Asp Asp Val Gly Ile Tyr Tyr  
           100                          105                          110

tgc tct caa agt aca cat gtt ccg tac acg ttt ggc cag ggg acc aag 384  
 Cys Ser Gln Ser Thr His Val Pro Tyr Thr Phe Gly Gln Gly Thr Lys  
           115                          120                          125

ctg gag atc aaa cgtgagtgga tccgcg 412  
 Leu Glu Ile Lys  
           130

<210> 58

<211> 38

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
 oligonucleotide

<400> 58

ccttcaccaa ccatgttatg cactggctgc gacaggcc

38

<210> 59

<211> 38

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
 oligonucleotide

<400> 59

ataatgagaa gttcaagggc agagtcacga tgacctca

38

<210> 60

<211> 38

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
 oligonucleotide

<400> 60

tgctagaggg gggtactatt cttacgacga ctggggcc

38

<210> 61

<211> 20

<212> DNA

<213> Artificial Sequence



&lt;220&gt;

<223> Description of Artificial Sequence: Synthetic  
oligonucleotide

&lt;400&gt; 61

ataacatggt tggagaaggt

20

&lt;210&gt; 62

&lt;211&gt; 20

&lt;212&gt; DNA

&lt;213&gt; Artificial Sequence

&lt;220&gt;

<223> Description of Artificial Sequence: Synthetic  
oligonucleotide

&lt;400&gt; 62

ccttgaactt ctcattatac

20

&lt;210&gt; 63

&lt;211&gt; 19

&lt;212&gt; DNA

&lt;213&gt; Artificial Sequence

&lt;220&gt;

<223> Description of Artificial Sequence: Synthetic  
oligonucleotide

&lt;400&gt; 63

atagtaaccc cctctagca

19

&lt;210&gt; 64

&lt;211&gt; 424

&lt;212&gt; DNA

&lt;213&gt; Artificial Sequence

&lt;220&gt;

<223> Description of Artificial Sequence: Synthetic  
plasmid

&lt;220&gt;

&lt;221&gt; CDS

&lt;222&gt; (1)..(408)

&lt;400&gt; 64

atg gaa tgg agc tgg ata ttt ctc ttc ctc ctg tca gga act gca ggt 48

Met Glu Trp Ser Trp Ile Phe Leu Phe Leu Leu Ser Gly Thr Ala Gly

1

5

10

15

gtc cac tcc cag gtg cag ctg gtg cag tct ggg gct gag gtg aag aag 96

Val His Ser Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys

20

25

30

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cct ggg gcc tca gtg cag gtt tcc tgt aag gca tct gga tac acc ttc 144
Pro Gly Ala Ser Val Gln Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe
      35              40              45

acc aac cat gtt atg cac tgg ctg cga cag gcc cct gga caa ggg ctt 192
Thr Asn His Val Met His Trp Leu Arg Gln Ala Pro Gly Gln Gly Leu
      50              55              60

gag tgg atg gga tat att tat cct tac aat gat ggt act aag tat aat 240
Glu Trp Met Gly Tyr Ile Tyr Pro Tyr Asn Asp Gly Thr Lys Tyr Asn
      65              70              75              80

gag aag ttc aag ggc aga gtc acg atg acc tca gac acg tcc atc agc 288
Glu Lys Phe Lys Gly Arg Val Thr Met Thr Ser Asp Thr Ser Ile Ser
      85              90              95

aca gcc tac atg gag ttg agc agt ctc aga tct gac gac acg gcc gtc 336
Thr Ala Tyr Met Glu Leu Ser Ser Leu Arg Ser Asp Asp Thr Ala Val
      100              105              110

tat tat tgt gct aga ggg ggt tac tat tct tac gac gac tgg ggc caa 384
Tyr Tyr Cys Ala Arg Gly Gly Tyr Tyr Ser Tyr Asp Asp Trp Gly Gln
      115              120              125

gca acc ctg gtc acc gtc tcc tca ggtgagtgga tccgcg 424
Ala Thr Leu Val Thr Val Ser Ser
      130              135

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&lt;210&gt; 65

&lt;211&gt; 39

&lt;212&gt; DNA

&lt;213&gt; Artificial Sequence

&lt;220&gt;

<223> Description of Artificial Sequence: Synthetic  
oligonucleotide

&lt;400&gt; 65

acagtaaggg aaacacctat ttacagtggg atctgcaga

39

&lt;210&gt; 66

&lt;211&gt; 39

&lt;212&gt; DNA

&lt;213&gt; Artificial Sequence

&lt;220&gt;

<223> Description of Artificial Sequence: Synthetic  
oligonucleotide

&lt;400&gt; 66

ataggtgttt cccttactgt gcagaaggct ctgacttga

39

<210> 67  
 <211> 412  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthetic  
 plasmid

<220>  
 <221> CDS  
 <222> (1)..(396)

<400> 67  
 atg agg ctc cct gct cag ctc ctg ggg ctg cta atg ctc tgg gtc cca 48  
 Met Arg Leu Pro Ala Gln Leu Leu Gly Leu Leu Met Leu Trp Val Pro  
 1 5 10 15  
 ggc tcc agt ggg gat att gtg atg act cag tct cca ctc tcc ctg ccc 96  
 Gly Ser Ser Gly Asp Ile Val Met Thr Gln Ser Pro Leu Ser Leu Pro  
 20 25 30  
 gtc acc cct gga gag ccg gcc tcc atc tcc tgc aga tca agt cag agc 144  
 Val Thr Pro Gly Glu Pro Ala Ser Ile Ser Cys Arg Ser Ser Gln Ser  
 35 40 45  
 ctt ctg cac agt aag gga aac acc tat tta cag tgg tat ctg cag aag 192  
 Leu Leu His Ser Lys Gly Asn Thr Tyr Leu Gln Trp Tyr Leu Gln Lys  
 50 55 60  
 cca ggc cag tct cca aga ctc ctg atc tac aaa gtt tcc aac cga ttt 240  
 Pro Gly Gln Ser Pro Arg Leu Leu Ile Tyr Lys Val Ser Asn Arg Phe  
 65 70 75 80  
 tct ggt gtc cca gac aga ttc agc ggc agt ggg tca ggc act gat ttc 288  
 Ser Gly Val Pro Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe  
 85 90 95  
 aca ctg aaa atc agc agg gtg gag gct gat gat gtt gga att tat tac 336  
 Thr Leu Lys Ile Ser Arg Val Glu Ala Asp Asp Val Gly Ile Tyr Tyr  
 100 105 110  
 tgc tct caa agt aca cat gtt ccg tac acg ttt ggc cag ggg acc aag 384  
 Cys Ser Gln Ser Thr His Val Pro Tyr Thr Phe Gly Gln Gly Thr Lys  
 115 120 125  
 ctg gag atc aaa cgtgagtgga tccgcg 412  
 Leu Glu Ile Lys  
 130

<210> 68  
 <211> 25  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthetic  
         oligonucleotide  
  
 <400> 68  
 aggtgtcgac tcccaggtgc agctg 25  
  
 <210> 69  
 <211> 35  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Description of Artificial Sequence: Synthetic  
         oligonucleotide  
  
 <400> 69  
 ccaccactcg agactgtgac cagggttgct tggcc 35  
  
 <210> 70  
 <211> 44  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Description of Artificial Sequence: Synthetic  
         oligonucleotide  
  
 <400> 70  
 cagtctcgag tggtagcgga ggttccgata ttgtgatgac tcag 44  
  
 <210> 71  
 <211> 46  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Description of Artificial Sequence: Synthetic  
         oligonucleotide  
  
 <400> 71  
 aaaaggaaaa gcggccgctc attatttgat ctccagcttg gtcccc 46  
  
 <210> 72  
 <211> 15  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Description of Artificial Sequence: Synthetic  
         oligonucleotide

&lt;220&gt;

&lt;221&gt; CDS

&lt;222&gt; (1)..(15)

&lt;400&gt; 72

ggt ggc gga ggt tcc

15

Gly Gly Gly Gly Ser

1

5

&lt;210&gt; 73

&lt;211&gt; 768

&lt;212&gt; DNA

&lt;213&gt; Artificial Sequence

&lt;220&gt;

<223> Description of Artificial Sequence: Synthetic  
plasmid

&lt;220&gt;

&lt;221&gt; CDS

&lt;222&gt; (1)..(759)

&lt;400&gt; 73

atg gga tgg agc tgt atc atc ctc ttc ttg gta gca aca gct aca ggt 48

Met Gly Trp Ser Cys Ile Ile Leu Phe Leu Val Ala Thr Ala Thr Gly

1

5

10

15

gtc gac tcc cag gtg cag ctg gtg cag tct ggg gct gag gtg aag aag 96

Val Asp Ser Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys

20

25

30

cct ggg gcc tca gtg cag gtt tcc tgt aag gca tct gga tac acc ttc 144

Pro Gly Ala Ser Val Gln Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe

35

40

45

acc aac cat gtt att cac tgg ctg cga cag gcc cct gga caa ggg ctt 192

Thr Asn His Val Ile His Trp Leu Arg Gln Ala Pro Gly Gln Gly Leu

50

55

60

gag tgg atg gga tat att tat cct tac aat gat ggt act aag tat aat 240

Glu Trp Met Gly Tyr Ile Tyr Pro Tyr Asn Asp Gly Thr Lys Tyr Asn

65

70

75

80

gag aag ttc aag gac aga gtc acg atg acc tca gac acg tcc atc agc 288

Glu Lys Phe Lys Asp Arg Val Thr Met Thr Ser Asp Thr Ser Ile Ser

85

90

95

aca gcc tac atg gag ttg agc agt ctc aga tct gac gac acg gcc gtc 336

Thr Ala Tyr Met Glu Leu Ser Ser Leu Arg Ser Asp Asp Thr Ala Val

100

105

110

tat tat tgt gct aga ggg ggt tac tat act tac gac gac tgg ggc caa 384

Tyr Tyr Cys Ala Arg Gly Gly Tyr Tyr Thr Tyr Asp Asp Trp Gly Gln

115

120

125

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gca acc ctg gtc aca gtc tcg agt ggt ggc gga ggt tcc gat att gtg 432
Ala Thr Leu Val Thr Val Ser Ser Gly Gly Gly Ser Asp Ile Val
    130                135                140

atg act cag tct cca ctc tcc ctg ccc gtc acc cct gga gag ccg gcc 480
Met Thr Gln Ser Pro Leu Ser Leu Pro Val Thr Pro Gly Glu Pro Ala
    145                150                155                160

tcc atc tcc tgc aga tca agt cag agc ctt gtg cac agt aat gga aag 528
Ser Ile Ser Cys Arg Ser Ser Gln Ser Leu Val His Ser Asn Gly Lys
    165                170                175

acc tat tta cat tgg tat ctg cag aag cca ggc cag tct cca aga ctc 576
Thr Tyr Leu His Trp Tyr Leu Gln Lys Pro Gly Gln Ser Pro Arg Leu
    180                185                190

ctg atc tac aaa gtt tcc aac cga ttt tct ggt gtc cca gac aga ttc 624
Leu Ile Tyr Lys Val Ser Asn Arg Phe Ser Gly Val Pro Asp Arg Phe
    195                200                205

agc ggc agt ggg tca ggc act gat ttc aca ctg aaa atc agc agg gtg 672
Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Lys Ile Ser Arg Val
    210                215                220

gag gct gat gat gtt gga att tat tac tgc tct caa agt aca cat gtt 720
Glu Ala Asp Asp Val Gly Ile Tyr Tyr Cys Ser Gln Ser Thr His Val
    225                230                235                240

ccg tac acg ttt ggc cag ggg acc aag ctg gag atc aaa taatgagcgc 768
Pro Tyr Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
    245                250

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&lt;210&gt; 74

&lt;211&gt; 768

&lt;212&gt; DNA

&lt;213&gt; Artificial Sequence

&lt;220&gt;

<223> Description of Artificial Sequence: Synthetic  
plasmid

&lt;220&gt;

&lt;221&gt; CDS

&lt;222&gt; (1)..(759)

&lt;400&gt; 74

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atg gga tgg agc tgt atc atc ctc ttc ttg gta gca aca gct aca ggt 48
Met Gly Trp Ser Cys Ile Ile Leu Phe Leu Val Ala Thr Ala Thr Gly
    1                5                10                15

gtc gac tcc cag gtg cag ctg gtg cag tct ggg gct gag gtg aag aag 96
Val Asp Ser Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys
    20                25                30

```

cct ggg gcc tca gtg cag gtt tcc tgt aag gca tct gga tac acc ttc	144
Pro Gly Ala Ser Val Gln Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe	
35 40 45	
acc aac cat gtt atg cac tgg ctg cga cag gcc cct gga caa ggg ctt	192
Thr Asn His Val Met His Trp Leu Arg Gln Ala Pro Gly Gln Gly Leu	
50 55 60	
gag tgg atg gga tat att tat cct tac aat gat ggt act aag tat aat	240
Glu Trp Met Gly Tyr Ile Tyr Pro Tyr Asn Asp Gly Thr Lys Tyr Asn	
65 70 75 80	
gag aag ttc aag ggc aga gtc acg atg acc tca gac acg tcc atc agc	288
Glu Lys Phe Lys Gly Arg Val Thr Met Thr Ser Asp Thr Ser Ile Ser	
85 90 95	
aca gcc tac atg gag ttg agc agt ctc aga tct gac gac acg gcc gtc	336
Thr Ala Tyr Met Glu Leu Ser Ser Leu Arg Ser Asp Asp Thr Ala Val	
100 105 110	
tat tat tgt gct aga ggg ggt tac tat tct tac gac gac tgg ggc caa	384
Tyr Tyr Cys Ala Arg Gly Gly Tyr Tyr Ser Tyr Asp Asp Trp Gly Gln	
115 120 125	
gca acc ctg gtc aca gtc tcg agt ggt ggc gga ggt tcc gat att gtg	432
Ala Thr Leu Val Thr Val Ser Ser Gly Gly Gly Gly Ser Asp Ile Val	
130 135 140	
atg act cag tct cca ctc tcc ctg ccc gtc acc cct gga gag ccg gcc	480
Met Thr Gln Ser Pro Leu Ser Leu Pro Val Thr Pro Gly Glu Pro Ala	
145 150 155 160	
tcc atc tcc tgc aga tca agt cag agc ctt ctg cac agt aag gga aac	528
Ser Ile Ser Cys Arg Ser Ser Gln Ser Leu Leu His Ser Lys Gly Asn	
165 170 175	
acc tat tta cag tgg tat ctg cag aag cca ggc cag tct cca aga ctc	576
Thr Tyr Leu Gln Trp Tyr Leu Gln Lys Pro Gly Gln Ser Pro Arg Leu	
180 185 190	
ctg atc tac aaa gtt tcc aac cga ttt tct ggt gtc cca gac aga ttc	624
Leu Ile Tyr Lys Val Ser Asn Arg Phe Ser Gly Val Pro Asp Arg Phe	
195 200 205	
agc ggc agt ggg tca ggc act gat ttc aca ctg aaa atc agc agg gtg	672
Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Lys Ile Ser Arg Val	
210 215 220	
gag gct gat gat gtt gga att tat tac tgc tct caa agt aca cat gtt	720
Glu Ala Asp Asp Val Gly Ile Tyr Tyr Cys Ser Gln Ser Thr His Val	
225 230 235 240	
ccg tac acg ttt ggc cag ggg acc aag ctg gag atc aaa taatgagcg	768
Pro Tyr Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys	
245 250	

<210> 75  
 <211> 44  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthetic  
 oligonucleotide

<400> 75  
 cgcggtatccg gtggtggcgg atcgaggtg cagctggtgc agtc 44

<210> 76  
 <211> 54  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthetic  
 oligonucleotide

<400> 76  
 cgcggtatcca ccaccacccg aaccaccacc acctttgatc tccagcttgg tccc 54

<210> 77  
 <211> 45  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthetic  
 oligonucleotide

<220>  
 <221> CDS  
 <222> (1)..(45)

<400> 77  
 ggt ggt ggt ggt tcg ggt ggt ggt gga tcc ggt ggt ggc gga tcg 45  
 Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser  
 1 5 10 15

<210> 78  
 <211> 1515  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthetic  
 plasmid

<220>  
 <221> CDS  
 <222> (1)..(1506)



&lt;400&gt; 78

atg gga tgg agc tgt atc atc ctc ttc ttg gta gca aca gct aca ggt	48
Met Gly Trp Ser Cys Ile Ile Leu Phe Leu Val Ala Thr Ala Thr Gly	
1 5 10 15	
gtc gac tcc cag gtg cag ctg gtg cag tct ggg gct gag gtg aag aag	96
Val Asp Ser Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys	
20 25 30	
cct ggg gcc tca gtg cag gtt tcc tgt aag gca tct gga tac acc ttc	144
Pro Gly Ala Ser Val Gln Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe	
35 40 45	
acc aac cat gtt att cac tgg ctg cga cag gcc cct gga caa ggg ctt	192
Thr Asn His Val Ile His Trp Leu Arg Gln Ala Pro Gly Gln Gly Leu	
50 55 60	
gag tgg atg gga tat att tat cct tac aat gat ggt act aag tat aat	240
Glu Trp Met Gly Tyr Ile Tyr Pro Tyr Asn Asp Gly Thr Lys Tyr Asn	
65 70 75 80	
gag aag ttc aag gac aga gtc acg atg acc tca gac acg tcc atc agc	288
Glu Lys Phe Lys Asp Arg Val Thr Met Thr Ser Asp Thr Ser Ile Ser	
85 90 95	
aca gcc tac atg gag ttg agc agt ctc aga tct gac gac acg gcc gtc	336
Thr Ala Tyr Met Glu Leu Ser Ser Leu Arg Ser Asp Asp Thr Ala Val	
100 105 110	
tat tat tgt gct aga ggg ggt tac tat act tac gac gac tgg ggc caa	384
Tyr Tyr Cys Ala Arg Gly Gly Tyr Tyr Thr Tyr Asp Asp Trp Gly Gln	
115 120 125	
gca acc ctg gtc aca gtc tgc agt ggt ggc gga ggt tcc gat att gtg	432
Ala Thr Leu Val Thr Val Ser Ser Gly Gly Gly Gly Ser Asp Ile Val	
130 135 140	
atg act cag tct cca ctc tcc ctg ccc gtc acc cct gga gag ccg gcc	480
Met Thr Gln Ser Pro Leu Ser Leu Pro Val Thr Pro Gly Glu Pro Ala	
145 150 155 160	
tcc atc tcc tgc aga tca agt cag agc ctt gtg cac agt aat gga aag	528
Ser Ile Ser Cys Arg Ser Ser Gln Ser Leu Val His Ser Asn Gly Lys	
165 170 175	
acc tat tta cat tgg tat ctg cag aag cca ggc cag tct cca aga ctc	576
Thr Tyr Leu His Trp Tyr Leu Gln Lys Pro Gly Gln Ser Pro Arg Leu	
180 185 190	
ctg atc tac aaa gtt tcc aac cga ttt tct ggt gtc cca gac aga ttc	624
Leu Ile Tyr Lys Val Ser Asn Arg Phe Ser Gly Val Pro Asp Arg Phe	
195 200 205	
agc ggc agt ggg tca ggc act gat ttc aca ctg aaa atc agc agg gtg	672
Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Lys Ile Ser Arg Val	
210 215 220	

gag gct gat gat gtt gga att tat tac tgc tct caa agt aca cat gtt	720
Glu Ala Asp Asp Val Gly Ile Tyr Tyr Cys Ser Gln Ser Thr His Val	
225 230 235 240	
ccg tac acg ttt ggc cag ggg acc aag ctg gag atc aaa ggt ggt ggt	768
Pro Tyr Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys Gly Gly Gly	
245 250 255	
ggg tgc ggt ggt ggt gga tcc ggt ggt ggc gga tgc cag gtg cag ctg	816
Gly Ser Gly Gly Gly Ser Gly Gly Gly Ser Gln Val Gln Leu	
260 265 270	
gtg cag tct ggg gct gag gtg aag aag cct ggg gcc tca gtg cag gtt	864
Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala Ser Val Gln Val	
275 280 285	
tcc tgt aag gca tct gga tac acc ttc acc aac cat gtt att cac tgg	912
Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn His Val Ile His Trp	
290 295 300	
ctg cga cag gcc cct gga caa ggg ctt gag tgg atg gga tat att tat	960
Leu Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met Gly Tyr Ile Tyr	
305 310 315 320	
cct tac aat gat ggt act aag tat aat gag aag ttc aag gac aga gtc	1008
Pro Tyr Asn Asp Gly Thr Lys Tyr Asn Glu Lys Phe Lys Asp Arg Val	
325 330 335	
acg atg acc tca gac acg tcc atc agc aca gcc tac atg gag ttg agc	1056
Thr Met Thr Ser Asp Thr Ser Ile Ser Thr Ala Tyr Met Glu Leu Ser	
340 345 350	
agt ctc aga tct gac gac acg gcc gtc tat tat tgt gct aga ggg ggt	1104
Ser Leu Arg Ser Asp Asp Thr Ala Val Tyr Tyr Cys Ala Arg Gly Gly	
355 360 365	
tac tat act tac gac gac tgg ggc caa gca acc ctg gtc aca gtc tgc	1152
Tyr Tyr Thr Tyr Asp Asp Trp Gly Gln Ala Thr Leu Val Thr Val Ser	
370 375 380	
agt ggt ggc gga ggt tcc gat att gtg atg act cag tct cca ctc tcc	1200
Ser Gly Gly Gly Gly Ser Asp Ile Val Met Thr Gln Ser Pro Leu Ser	
385 390 395 400	
ctg ccc gtc acc cct gga gag ccg gcc tcc atc tcc tgc aga tca agt	1248
Leu Pro Val Thr Pro Gly Glu Pro Ala Ser Ile Ser Cys Arg Ser Ser	
405 410 415	
cag agc ctt gtg cac agt aat gga aag acc tat tta cat tgg tat ctg	1296
Gln Ser Leu Val His Ser Asn Gly Lys Thr Tyr Leu His Trp Tyr Leu	
420 425 430	
cag aag cca ggc cag tct cca aga ctc ctg atc tac aaa gtt tcc aac	1344
Gln Lys Pro Gly Gln Ser Pro Arg Leu Leu Ile Tyr Lys Val Ser Asn	
435 440 445	

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cga ttt tct ggt gtc cca gac aga ttc agc ggc agt ggg tca ggc act 1392
Arg Phe Ser Gly Val Pro Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr
  450                      455                      460

gat ttc aca ctg aaa atc agc agg gtg gag gct gat gat gtt gga att 1440
Asp Phe Thr Leu Lys Ile Ser Arg Val Glu Ala Asp Asp Val Gly Ile
465                      470                      475                      480

tat tac tgc tct caa agt aca cat gtt ccg tac acg ttt ggc cag ggg 1488
Tyr Tyr Cys Ser Gln Ser Thr His Val Pro Tyr Thr Phe Gly Gln Gly
                      485                      490                      495

acc aag ctg gag atc aaa taatgagcgc 1515
Thr Lys Leu Glu Ile Lys
                      500

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<210> 79  
 <211> 1515  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthetic  
 plasmid

<220>  
 <221> CDS  
 <222> (1)..(1506)

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<400> 79
atg gga tgg agc tgt atc atc ctc ttc ttg gta gca aca gct aca ggt 48
Met Gly Trp Ser Cys Ile Ile Leu Phe Leu Val Ala Thr Ala Thr Gly
  1                      5                      10                      15

gtc gac tcc cag gtg cag ctg gtg cag tct ggg gct gag gtg aag aag 96
Val Asp Ser Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys
                      20                      25                      30

cct ggg gcc tca gtg cag gtt tcc tgt aag gca tct gga tac acc ttc 144
Pro Gly Ala Ser Val Gln Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe
                      35                      40                      45

acc aac cat gtt atg cac tgg ctg cga cag gcc cct gga caa ggg ctt 192
Thr Asn His Val Met His Trp Leu Arg Gln Ala Pro Gly Gln Gly Leu
  50                      55                      60

gag tgg atg gga tat att tat cct tac aat gat ggt act aag tat aat 240
Glu Trp Met Gly Tyr Ile Tyr Pro Tyr Asn Asp Gly Thr Lys Tyr Asn
  65                      70                      75                      80

gag aag ttc aag ggc aga gtc acg atg acc tca gac acg tcc atc agc 288
Glu Lys Phe Lys Gly Arg Val Thr Met Thr Ser Asp Thr Ser Ile Ser
                      85                      90                      95

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aca gcc tac atg gag ttg agc agt ctc aga tct gac gac acg gcc gtc	336
Thr Ala Tyr Met Glu Leu Ser Ser Leu Arg Ser Asp Asp Thr Ala Val	
100 105 110	
tat tat tgt gct aga ggg ggt tac tat tct tac gac gac tgg ggc caa	384
Tyr Tyr Cys Ala Arg Gly Gly Tyr Tyr Ser Tyr Asp Asp Trp Gly Gln	
115 120 125	
gca acc ctg gtc aca gtc tcg agt ggt ggc gga ggt tcc gat att gtg	432
Ala Thr Leu Val Thr Val Ser Ser Gly Gly Gly Ser Asp Ile Val	
130 135 140	
atg act cag tct cca ctc tcc ctg ccc gtc acc cct gga gag ccg gcc	480
Met Thr Gln Ser Pro Leu Ser Leu Pro Val Thr Pro Gly Glu Pro Ala	
145 150 155 160	
tcc atc tcc tgc aga tca agt cag agc ctt ctg cac agt aag gga aac	528
Ser Ile Ser Cys Arg Ser Ser Gln Ser Leu Leu His Ser Lys Gly Asn	
165 170 175	
acc tat tta cag tgg tat ctg cag aag cca ggc cag tct cca aga ctc	576
Thr Tyr Leu Gln Trp Tyr Leu Gln Lys Pro Gly Gln Ser Pro Arg Leu	
180 185 190	
ctg atc tac aaa gtt tcc aac cga ttt tct ggt gtc cca gac aga ttc	624
Leu Ile Tyr Lys Val Ser Asn Arg Phe Ser Gly Val Pro Asp Arg Phe	
195 200 205	
agc ggc agt ggg tca ggc act gat ttc aca ctg aaa atc agc agg gtg	672
Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Lys Ile Ser Arg Val	
210 215 220	
gag gct gat gat gtt gga att tat tac tgc tct caa agt aca cat gtt	720
Glu Ala Asp Asp Val Gly Ile Tyr Tyr Cys Ser Gln Ser Thr His Val	
225 230 235 240	
ccg tac acg ttt ggc cag ggg acc aag ctg gag atc aaa ggt ggt ggt	768
Pro Tyr Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys Gly Gly Gly	
245 250 255	
ggt tcg ggt ggt ggt gga tcc ggt ggt ggc gga tcg cag gtg cag ctg	816
Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln Val Gln Leu	
260 265 270	
gtg cag tct ggg gct gag gtg aag aag cct ggg gcc tca gtg cag gtt	864
Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala Ser Val Gln Val	
275 280 285	
tcc tgt aag gca tct gga tac acc ttc acc aac cat gtt atg cac tgg	912
Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn His Val Met His Trp	
290 295 300	
ctg cga cag gcc cct gga caa ggg ctt gag tgg atg gga tat att tat	960
Leu Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met Gly Tyr Ile Tyr	
305 310 315 320	

cct tac aat gat ggt act aag tat aat gag aag ttc aag ggc aga gtc	1008
Pro Tyr Asn Asp Gly Thr Lys Tyr Asn Glu Lys Phe Lys Gly Arg Val	
325 330 335	
acg atg acc tca gac acg tcc atc agc aca gcc tac atg gag ttg agc	1056
Thr Met Thr Ser Asp Thr Ser Ile Ser Thr Ala Tyr Met Glu Leu Ser	
340 345 350	
agt ctc aga tct gac gac acg gcc gtc tat tat tgt gct aga ggg ggt	1104
Ser Leu Arg Ser Asp Asp Thr Ala Val Tyr Tyr Cys Ala Arg Gly Gly	
355 360 365	
tac tat tct tac gac gac tgg ggc caa gca acc ctg gtc aca gtc tcg	1152
Tyr Tyr Ser Tyr Asp Asp Trp Gly Gln Ala Thr Leu Val Thr Val Ser	
370 375 380	
agt ggt ggc gga ggt tcc gat att gtg atg act cag tct cca ctc tcc	1200
Ser Gly Gly Gly Gly Ser Asp Ile Val Met Thr Gln Ser Pro Leu Ser	
385 390 395 400	
ctg ccc gtc acc cct gga gag ccg gcc tcc atc tcc tgc aga tca agt	1248
Leu Pro Val Thr Gly Glu Pro Ala Ser Ile Ser Cys Arg Ser Ser	
405 410 415	
cag agc ctt ctg cac agt aag gga aac acc tat tta cag tgg tat ctg	1296
Gln Ser Leu Leu His Ser Lys Gly Asn Thr Tyr Leu Gln Trp Tyr Leu	
420 425 430	
cag aag cca ggc cag tct cca aga ctc ctg atc tac aaa gtt tcc aac	1344
Gln Lys Pro Gly Gln Ser Pro Arg Leu Leu Ile Tyr Lys Val Ser Asn	
435 440 445	
cga ttt tct ggt gtc cca gac aga ttc agc ggc agt ggg tca ggc act	1392
Arg Phe Ser Gly Val Pro Asp Arg Phe Ser Gly Ser Gly Ser Thr	
450 455 460	
gat ttc aca ctg aaa atc agc agg gtg gag gct gat gat gtt gga att	1440
Asp Phe Thr Leu Lys Ile Ser Arg Val Glu Ala Asp Asp Val Gly Ile	
465 470 475 480	
tat tac tgc tct caa agt aca cat gtt ccg tac acg ttt ggc cag ggg	1488
Tyr Tyr Cys Ser Gln Ser Thr His Val Pro Tyr Thr Phe Gly Gln Gly	
485 490 495	
acc aag ctg gag atc aaa taatgagcg	1515
Thr Lys Leu Glu Ile Lys	
500	

&lt;210&gt; 80

&lt;211&gt; 39

&lt;212&gt; DNA

&lt;213&gt; Artificial Sequence

&lt;220&gt;

&lt;223&gt; Description of Artificial Sequence: Synthetic oligonucleotide

<400> 80  
 ctcgaggaat tcccaccatg ggatggagct gtatcatcc 39

<210> 81  
 <211> 27  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthetic  
 oligonucleotide

<400> 81  
 gggggcctgt cgcagccagt gaataac 27

<210> 82  
 <211> 45  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthetic  
 oligonucleotide

<400> 82  
 gggcagtcag tgtatacggc cgtgtcgtca gatctgagac tgctc 45

<210> 83  
 <211> 35  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthetic  
 oligonucleotide

<400> 83  
 gggcaatgcc ttgagtggat gggatatatt tatcc 35

<210> 84  
 <211> 54  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthetic  
 oligonucleotide

<400> 84  
 tcattatttg atctcaagct tgggtcccgca gccaaacgtg tacggaacat gtgt 54

<210> 85  
<211> 68  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic  
oligonucleotide

<400> 85  
tactattgtg ctagaggggg ttactatact tacgacgact ggggctgcgc aaccctgggc 60  
acagtctc 68

<210> 86  
<211> 35  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic  
oligonucleotide

<400> 86  
gggcttctgc agataccaat gtaaataaggc ctttc 35

<210> 87  
<211> 36  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic  
oligonucleotide

<400> 87  
gggcagtgcc caagactcct gatctacaaa gtttcc 36

<210> 88  
<211> 37  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic  
oligonucleotide

<400> 88  
tcattatttg atctcaagct tggccccctg gccaaac 37

<210> 89  
<211> 708  
<212> DNA  
<213> Artificial Sequence

&lt;220&gt;

&lt;223&gt; Description of Artificial Sequence: Synthetic polynucleotide sequence

&lt;400&gt; 89

```

caggtgcagc tgggtgcagtc tgggggctgag gtgaagaagc ctgggggcctc agtgcagggt 60
tcctgtaagg catctggata caccttcacc aaccatgtta ttcactggct gcgacaggcc 120
cccgggcaat gccttgagtg gatgggatat atttatcctt acaatgatgg tactaagtat 180
aatgagaagt tcaaggacag agtcacgatg acctcagaca cgtccatcag cacagcctac 240
atggagttga gcagtctcag atctgacgac acggccgtct attattgtgc tagaggggggt 300
tactatactt acgacgactg gggccaagca accctgggtc cagtctcgag tgggtggcgga 360
ggttccgata ttgtgatgac tcagtctcca ctctccctgc ccgtcacccc tggagagccg 420
gcctccatct cctgcagatc aagtcagagc cttgtgcaca gtaatggaaa gacctattta 480
cattgggtatc tgagaagcc aggccagtct ccaagactcc tgatctacaa agtttccaac 540
cgattttctg gtgtcccaga cagattcagc ggcagtgggt caggcactga tttcacactg 600
aaaatcagca ggggtggaggc tgatgatgtt ggaatttatt actgctctca aagtacacat 660
gttccgtaca cgtttggtg cgggaccaag cttgagatca aataatga 708

```

&lt;210&gt; 90

&lt;211&gt; 234

&lt;212&gt; PRT

&lt;213&gt; Artificial Sequence

&lt;220&gt;

&lt;223&gt; Description of Artificial Sequence: Synthetic protein

&lt;400&gt; 90

```

Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala
 1             5             10             15
Ser Val Gln Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn His
          20             25             30
Val Ile His Trp Leu Arg Gln Ala Pro Gly Gln Cys Leu Glu Trp Met
          35             40             45
Gly Tyr Ile Tyr Pro Tyr Asn Asp Gly Thr Lys Tyr Asn Glu Lys Phe
          50             55             60
Lys Asp Arg Val Thr Met Thr Ser Asp Thr Ser Ile Ser Thr Ala Tyr
          65             70             75             80
Met Glu Leu Ser Ser Leu Arg Ser Asp Asp Thr Ala Val Tyr Tyr Cys
          85             90             95
Ala Arg Gly Gly Tyr Tyr Thr Tyr Asp Asp Trp Gly Gln Ala Thr Leu
          100            105            110
Val Thr Val Ser Ser Gly Gly Gly Gly Ser Asp Ile Val Met Thr Gln
          115            120            125
Ser Pro Leu Ser Leu Pro Val Thr Pro Gly Glu Pro Ala Ser Ile Ser
          130            135            140
Cys Arg Ser Ser Gln Ser Leu Val His Ser Asn Gly Lys Thr Tyr Leu
          145            150            155            160

```



His	Trp	Tyr	Leu	Gln 165	Lys	Pro	Gly	Gln	Ser 170	Pro	Arg	Leu	Leu	Ile	Tyr 175
Lys	Val	Ser	Asn 180	Arg	Phe	Ser	Gly	Val 185	Pro	Asp	Arg	Phe	Ser 190	Gly	Ser
Gly	Ser	Gly 195	Thr	Asp	Phe	Thr	Leu 200	Lys	Ile	Ser	Arg	Val 205	Glu	Ala	Asp
Asp	Val 210	Gly	Ile	Tyr	Tyr	Cys 215	Ser	Gln	Ser	Thr	His 220	Val	Pro	Tyr	Thr
Phe 225	Gly	Cys	Gly	Thr	Lys 230	Leu	Glu	Ile	Lys						

```
<210> 91
<211> 708
<212> DNA
<213> Artificial Sequence
```

<220>  
<223> Description of Artificial Sequence: Synthetic polynucleotide sequence

[illegible]

```
<210> 92
<211> 234
<212> PRT
<213> Artificial Sequence
```

```
<220>
<223> Description of Artificial Sequence: Synthetic
      protein
```

<400> 92  
Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala  
1 5 10 15  
Ser Val Gln Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn His  
20 25 30

Val His Ser Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys  
20 25 30

Pro Gly Ala Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe  
                   35                                  40                                  45

Ala Asn His Val Ile His Trp Val Arg Gln Ala Pro Gly Gln Gly Leu  
                   50                                  55                                  60

Glu Trp Met Gly Tyr Ile Tyr Pro Tyr Asn Asp Gly Thr Lys Tyr Asn  
                   65                                  70                                  75                                  80

Glu Lys Phe Lys Asp Arg Val Thr Met Thr Arg Asp Thr Ser Thr Ser  
                                   85                                  90                                  95

Thr Val Tyr Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val  
                                   100                                  105                                  110

Tyr Tyr Cys Ala Arg Gly Gly Tyr Tyr Thr Tyr Asp Asp Trp Gly Gln  
                   115                                  120                                  125

Gly Thr Leu Val Thr Val Ser Ser  
                   130                                  135

<210> 94

<211> 136

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
 plasmid

<400> 94

Met Glu Trp Ser Trp Ile Phe Leu Phe Leu Leu Ser Gly Thr Ala Gly  
   1                                  5                                  10                                  15

Val His Ser Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys  
                                   20                                  25                                  30

Pro Gly Ala Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe  
                   35                                  40                                  45

Ala Asn His Val Ile His Trp Val Arg Gln Ala Pro Gly Gln Gly Leu  
                   50                                  55                                  60

Glu Trp Met Gly Tyr Ile Tyr Pro Tyr Asn Asp Gly Thr Lys Tyr Asn  
                   65                                  70                                  75                                  80

Glu Lys Phe Lys Asp Arg Val Thr Met Thr Ser Asp Thr Ser Thr Ser  
                                   85                                  90                                  95

Thr Val Tyr Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val  
                                   100                                  105                                  110

Tyr Tyr Cys Ala Arg Gly Gly Tyr Tyr Thr Tyr Asp Asp Trp Gly Gln  
                   115                                  120                                  125

Gly Thr Leu Val Thr Val Ser Ser  
                   130                                  135

<210> 95  
 <211> 136  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthetic  
 plasmid

<400> 95  
 Met Glu Trp Ser Trp Ile Phe Leu Phe Leu Leu Ser Gly Thr Ala Gly  
 1 5 10 15  
 Val His Ser Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys  
 20 25 30  
 Pro Gly Ala Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe  
 35 40 45  
 Thr Asn His Val Ile His Trp Val Arg Gln Ala Pro Gly Gln Gly Leu  
 50 55 60  
 Glu Trp Met Gly Tyr Ile Tyr Pro Tyr Asn Asp Gly Thr Lys Tyr Asn  
 65 70 75 80  
 Glu Lys Phe Lys Asp Arg Val Thr Met Thr Ser Asp Thr Ser Thr Ser  
 85 90 95  
 Thr Val Tyr Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val  
 100 105 110  
 Tyr Tyr Cys Ala Arg Gly Gly Tyr Tyr Thr Tyr Asp Asp Trp Gly Gln  
 115 120 125  
 Gly Thr Leu Val Thr Val Ser Ser  
 130 135

<210> 96  
 <211> 136  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthetic  
 plasmid

<400> 96  
 Met Glu Trp Ser Trp Ile Phe Leu Phe Leu Leu Ser Gly Thr Ala Gly  
 1 5 10 15  
 Val His Ser Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys  
 20 25 30  
 Pro Gly Ala Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe  
 35 40 45

Ala Asn His Val Ile His Trp Val Arg Gln Ala Pro Gly Gln Gly Leu  
 50 55 60

Glu Trp Met Gly Tyr Ile Tyr Pro Tyr Asn Asp Gly Thr Lys Tyr Asn  
 65 70 75 80

Glu Lys Phe Lys Asp Lys Val Thr Met Thr Ser Asp Thr Ser Thr Ser  
 85 90 95

Thr Val Tyr Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val  
 100 105 110

Tyr Tyr Cys Ala Arg Gly Gly Tyr Tyr Thr Tyr Asp Asp Trp Gly Gln  
 115 120 125

Gly Thr Leu Val Thr Val Ser Ser  
 130 135

<210> 97

<211> 136

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
 plasmid

<400> 97

Met Glu Trp Ser Trp Ile Phe Leu Phe Leu Leu Ser Gly Thr Ala Gly  
 1 5 10 15

Val His Ser Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys  
 20 25 30

Pro Gly Ala Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe  
 35 40 45

Ala Asn His Val Ile His Trp Val Arg Gln Ala Pro Gly Gln Gly Leu  
 50 55 60

Glu Trp Met Gly Tyr Ile Tyr Pro Tyr Asn Asp Gly Thr Lys Tyr Asn  
 65 70 75 80

Glu Lys Phe Lys Asp Arg Val Thr Leu Thr Ser Asp Thr Ser Thr Ser  
 85 90 95

Thr Val Tyr Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val  
 100 105 110

Tyr Tyr Cys Ala Arg Gly Gly Tyr Tyr Thr Tyr Asp Asp Trp Gly Gln  
 115 120 125

Gly Thr Leu Val Thr Val Ser Ser  
 130 135

<210> 98  
 <211> 136  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthetic  
 plasmid

<400> 98  
 Met Glu Trp Ser Trp Ile Phe Leu Phe Leu Leu Ser Gly Thr Ala Gly  
   1                  5                  10                  15  
 Val His Ser Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys  
                   20                  25                  30  
 Pro Gly Ala Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe  
                   35                  40                  45  
 Thr Asn His Val Ile His Trp Val Arg Gln Ala Pro Gly Gln Gly Leu  
   50                  55                  60  
 Glu Trp Met Gly Tyr Ile Tyr Pro Tyr Asn Asp Gly Thr Lys Tyr Asn  
   65                  70                  75                  80  
 Glu Lys Phe Lys Asp Arg Val Thr Met Thr Ser Asp Thr Ser Thr Ser  
                   85                  90                  95  
 Thr Val Tyr Met Glu Leu Ser Ser Leu Arg Ser Asp Asp Thr Ala Val  
                   100                  105                  110  
 Tyr Tyr Cys Ala Arg Gly Gly Tyr Tyr Thr Tyr Asp Asp Trp Gly Gln  
                   115                  120                  125  
 Gly Thr Leu Val Thr Val Ser Ser  
   130                  135

<210> 99  
 <211> 136  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthetic  
 plasmid

<400> 99  
 Met Glu Trp Ser Trp Ile Phe Leu Phe Leu Leu Ser Gly Thr Ala Gly  
   1                  5                  10                  15  
 Val His Ser Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys  
                   20                  25                  30

Pro	Gly	Ala	Ser	Val	Gln	Val	Ser	Cys	Lys	Ala	Ser	Gly	Tyr	Thr	Phe
		35					40					45			
Thr	Asn	His	Val	Ile	His	Trp	Leu	Arg	Gln	Ala	Pro	Gly	Gln	Gly	Leu
	50					55					60				
Glu	Trp	Met	Gly	Tyr	Ile	Tyr	Pro	Tyr	Asn	Asp	Gly	Thr	Lys	Tyr	Asn
	65				70					75					80
Glu	Lys	Phe	Lys	Asp	Arg	Val	Thr	Met	Thr	Ser	Asp	Thr	Ser	Ile	Ser
				85					90					95	
Thr	Ala	Tyr	Met	Glu	Leu	Ser	Ser	Leu	Arg	Ser	Asp	Asp	Thr	Ala	Val
			100					105					110		
Tyr	Tyr	Cys	Ala	Arg	Gly	Gly	Tyr	Tyr	Thr	Tyr	Asp	Asp	Trp	Gly	Gln
		115					120					125			
Ala	Thr	Leu	Val	Thr	Val	Ser	Ser								
	130					135									

 $\langle 210 \rangle$  100

<211> 132

<212> PRT

<213> Artificial Sequence

$\langle 220 \rangle$

<223> Description of Artificial Sequence: Synthetic plasmid

$\langle 400 \rangle$  100

Met Arg Leu Pro Ala Gln Leu Leu Gly Leu Leu Met Leu Trp Val Pro  
1 5 10 15

Gly Ser Ser Gly Asp Val Val Met Thr Gln Ser Pro Leu Ser Leu Pro  
20 25 30

Val Thr Leu Gly Gln Pro Ala Ser Ile Ser Cys Arg Ser Ser Gln Ser  
35 40 45

Leu Val His Ser Asn Gly Lys Thr Tyr Leu His Trp Phe Gln Gln Arg  
50 55 60

Pro Gly Gln Ser Pro Arg Arg Leu Ile Tyr Lys Val Ser Asn Arg Phe  
65 70 75 80

Ser Gly Val Pro Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe  
85 90 95

Thr Leu Lys Ile Ser Arg Val Glu Ala Glu Asp Val Gly Val Tyr Tyr  
100 105 110

Cys Ser Gln Ser Thr His Val Pro Tyr Thr Phe Gly Gln Gly Thr Lys  
115 120 125

Leu Glu Ile Lys  
130

<210> 101  
<211> 132  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic  
plasmid

<400> 101  
Met Arg Leu Pro Ala Gln Leu Leu Gly Leu Leu Met Leu Trp Val Pro  
1 5 10 15  
Gly Ser Ser Gly Asp Val Val Met Thr Gln Ser Pro Leu Ser Leu Pro  
20 25 30  
Val Thr Leu Gly Gln Pro Ala Ser Ile Ser Cys Arg Ser Ser Gln Ser  
35 40 45  
Leu Val His Ser Asn Gly Lys Thr Tyr Leu His Trp Phe Gln Gln Arg  
50 55 60  
Pro Gly Gln Ser Pro Arg Leu Leu Ile Tyr Lys Val Ser Asn Arg Phe  
65 70 75 80  
Ser Gly Val Pro Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe  
85 90 95  
Thr Leu Lys Ile Ser Arg Val Glu Ala Glu Asp Val Gly Val Tyr Tyr  
100 105 110  
Cys Ser Gln Ser Thr His Val Pro Tyr Thr Phe Gly Gln Gly Thr Lys  
115 120 125  
Leu Glu Ile Lys  
130

<210> 102  
<211> 132  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic  
plasmid

<400> 102  
Met Arg Leu Pro Ala Gln Leu Leu Gly Leu Leu Met Leu Trp Val Pro  
1 5 10 15  
Gly Ser Ser Gly Asp Val Val Met Thr Gln Ser Pro Leu Ser Leu Pro  
20 25 30



Val Thr Leu Gly Gln Pro Ala Ser Ile Ser Cys Arg Ser Ser Gln Ser  
                   35                                  40                                  45

Leu Val His Ser Asn Gly Lys Thr Tyr Leu His Trp Phe Gln Gln Arg  
                   50                                  55                                  60

Pro Gly Gln Ser Pro Arg Arg Leu Ile Tyr Lys Val Ser Asn Arg Phe  
                   65                                  70                                  75                                  80

Ser Gly Val Pro Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe  
                                   85                                  90                                  95

Thr Leu Lys Ile Ser Arg Val Glu Ala Glu Asp Val Gly Val Tyr Phe  
                   100                                  105                                  110

Cys Ser Gln Ser Thr His Val Pro Tyr Thr Phe Gly Gln Gly Thr Lys  
                   115                                  120                                  125

Leu Glu Ile Lys  
                   130

<210> 103

<211> 132

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
                   plasmid

<400> 103

Met Arg Leu Pro Ala Gln Leu Leu Gly Leu Leu Met Leu Trp Val Pro  
   1                                  5                                  10                                  15

Gly Ser Ser Gly Asp Val Val Met Thr Gln Ser Pro Leu Ser Leu Pro  
                   20                                  25                                  30

Val Thr Leu Gly Gln Pro Ala Ser Ile Ser Cys Arg Ser Ser Gln Ser  
                   35                                  40                                  45

Leu Val His Ser Asn Gly Lys Thr Tyr Leu His Trp Tyr Gln Gln Arg  
                   50                                  55                                  60

Pro Gly Gln Ser Pro Arg Arg Leu Ile Tyr Lys Val Ser Asn Arg Phe  
                   65                                  70                                  75                                  80

Ser Gly Val Pro Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe  
                                   85                                  90                                  95

Thr Leu Lys Ile Ser Arg Val Glu Ala Glu Asp Val Gly Val Tyr Tyr  
                   100                                  105                                  110

Cys Ser Gln Ser Thr His Val Pro Tyr Thr Phe Gly Gln Gly Thr Lys  
                   115                                  120                                  125

Leu Glu Ile Lys  
130

<210> 104  
<211> 132  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic  
plasmid

<400> 104  
Met Arg Leu Pro Ala Gln Leu Leu Gly Leu Leu Met Leu Trp Val Pro  
1 5 10 15  
Gly Ser Ser Gly Asp Val Val Met Thr Gln Ser Pro Leu Ser Leu Pro  
20 25 30  
Val Thr Leu Gly Gln Pro Ala Ser Ile Ser Cys Arg Ser Ser Gln Ser  
35 40 45  
Leu Val His Ser Asn Gly Lys Thr Tyr Leu His Trp Phe Leu Gln Arg  
50 55 60  
Pro Gly Gln Ser Pro Arg Arg Leu Ile Tyr Lys Val Ser Asn Arg Phe  
65 70 75 80  
Ser Gly Val Pro Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe  
85 90 95  
Thr Leu Lys Ile Ser Arg Val Glu Ala Glu Asp Val Gly Val Tyr Tyr  
100 105 110  
Cys Ser Gln Ser Thr His Val Pro Tyr Thr Phe Gly Gln Gly Thr Lys  
115 120 125  
Leu Glu Ile Lys  
130

<210> 105  
<211> 132  
<212> PRT  
<213> Artificial Sequence  
<223> Description of Artificial Sequence: Synthetic  
plasmid

<400> 105  
Met Arg Leu Pro Ala Gln Leu Leu Gly Leu Leu Met Leu Trp Val Pro  
1 5 10 15  
Gly Ser Ser Gly Asp Val Val Met Thr Gln Ser Pro Leu Ser Leu Pro  
20 25 30

Val Thr Leu Gly Gln Pro Ala Ser Ile Ser Cys Arg Ser Ser Gln Ser  
 35 40 45

Leu Val His Ser Asn Gly Lys Thr Tyr Leu His Trp Tyr Leu Gln Lys  
 50 55 60

Pro Gly Gln Ser Pro Arg Leu Leu Ile Tyr Lys Val Ser Asn Arg Phe  
 65 70 75 80

Ser Gly Val Pro Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe  
 85 90 95

Thr Leu Lys Ile Ser Arg Val Glu Ala Glu Asp Val Gly Val Tyr Tyr  
 100 105 110

Cys Ser Gln Ser Thr His Val Pro Tyr Thr Phe Gly Gln Gly Thr Lys  
 115 120 125

Leu Glu Ile Lys  
 130

<210> 106

<211> 132

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
 plasmid

<400> 106

Met Arg Leu Pro Ala Gln Leu Leu Gly Leu Leu Met Leu Trp Val Pro  
 1 5 10 15

Gly Ser Ser Gly Asp Ile Val Met Thr Gln Ser Pro Leu Ser Leu Pro  
 20 25 30

Val Thr Pro Gly Glu Pro Ala Ser Ile Ser Cys Arg Ser Ser Gln Ser  
 35 40 45

Leu Val His Ser Asn Gly Lys Thr Tyr Leu His Trp Tyr Leu Gln Lys  
 50 55 60

Pro Gly Gln Ser Pro Arg Leu Leu Ile Tyr Lys Val Ser Asn Arg Phe  
 65 70 75 80

Ser Gly Val Pro Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe  
 85 90 95

Thr Leu Lys Ile Ser Arg Val Glu Ala Asp Asp Val Gly Ile Tyr Tyr  
 100 105 110

Cys Ser Gln Ser Thr His Val Pro Tyr Thr Phe Gly Gln Gly Thr Lys  
 115 120 125

Leu Glu Ile Lys  
130

<210> 107  
<211> 136  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic  
plasmid

<400> 107  
Met Glu Trp Ser Trp Ile Phe Leu Phe Leu Leu Ser Gly Thr Ala Gly  
1 5 10 15  
Val His Ser Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys  
20 25 30  
Pro Gly Ala Ser Val Gln Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe  
35 40 45  
Thr Asn His Val Met His Trp Leu Arg Gln Ala Pro Gly Gln Gly Leu  
50 55 60  
Glu Trp Met Gly Tyr Ile Tyr Pro Tyr Asn Asp Gly Thr Lys Tyr Asn  
65 70 75 80  
Glu Lys Phe Lys Gly Arg Val Thr Met Thr Ser Asp Thr Ser Ile Ser  
85 90 95  
Thr Ala Tyr Met Glu Leu Ser Ser Leu Arg Ser Asp Asp Thr Ala Val  
100 105 110  
Tyr Tyr Cys Ala Arg Gly Gly Tyr Tyr Ser Tyr Asp Asp Trp Gly Gln  
115 120 125  
Ala Thr Leu Val Thr Val Ser Ser  
130 135

<210> 108  
<211> 132  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic  
plasmid

<400> 108  
Met Arg Leu Pro Ala Gln Leu Leu Gly Leu Leu Met Leu Trp Val Pro  
1 5 10 15  
Gly Ser Ser Gly Asp Ile Val Met Thr Gln Ser Pro Leu Ser Leu Pro  
20 25 30

```
<210> 109
<211> 5
<212> PRT
<213> Artificial Sequence
```

<220>  
<223> Description of Artificial Sequence: Synthetic  
oligonucleotide

<400> 109  
Gly Gly Gly Gly Ser  
1 5

```
<210> 110
<211> 253
<212> PRT
<213> Artificial Sequence
```

```
<220>
<223> Description of Artificial Sequence: Synthetic
      plasmid
```

```

<400> 110
Met Gly Trp Ser Cys Ile Ile Leu Phe Leu Val Ala Thr Ala Thr Gly
  1             5             10             15

Val Asp Ser Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys
          20             25             30

Pro Gly Ala Ser Val Gln Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe
          35             40             45

```

Thr Asn His Val Ile His Trp Leu Arg Gln Ala Pro Gly Gln Gly Leu  
 50 55 60  
 Glu Trp Met Gly Tyr Ile Tyr Pro Tyr Asn Asp Gly Thr Lys Tyr Asn  
 65 70 75 80  
 Glu Lys Phe Lys Asp Arg Val Thr Met Thr Ser Asp Thr Ser Ile Ser  
 85 90 95  
 Thr Ala Tyr Met Glu Leu Ser Ser Leu Arg Ser Asp Asp Thr Ala Val  
 100 105 110  
 Tyr Tyr Cys Ala Arg Gly Gly Tyr Tyr Thr Tyr Asp Asp Trp Gly Gln  
 115 120 125  
 Ala Thr Leu Val Thr Val Ser Ser Gly Gly Gly Gly Ser Asp Ile Val  
 130 135 140  
 Met Thr Gln Ser Pro Leu Ser Leu Pro Val Thr Pro Gly Glu Pro Ala  
 145 150 155 160  
 Ser Ile Ser Cys Arg Ser Ser Gln Ser Leu Val His Ser Asn Gly Lys  
 165 170 175  
 Thr Tyr Leu His Trp Tyr Leu Gln Lys Pro Gly Gln Ser Pro Arg Leu  
 180 185 190  
 Leu Ile Tyr Lys Val Ser Asn Arg Phe Ser Gly Val Pro Asp Arg Phe  
 195 200 205  
 Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Lys Ile Ser Arg Val  
 210 215 220  
 Glu Ala Asp Asp Val Gly Ile Tyr Tyr Cys Ser Gln Ser Thr His Val  
 225 230 235 240  
 Pro Tyr Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys  
 245 250

&lt;210&gt; 111

&lt;211&gt; 253

&lt;212&gt; PRT

&lt;213&gt; Artificial Sequence

&lt;220&gt;

 <223> Description of Artificial Sequence: Synthetic  
 plasmid

&lt;400&gt; 111

Met Gly Trp Ser Cys Ile Ile Leu Phe Leu Val Ala Thr Ala Thr Gly  
 1 5 10 15  
 Val Asp Ser Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys  
 20 25 30  
 Pro Gly Ala Ser Val Gln Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe  
 35 40 45

55

Thr	Asn	His	Val	Met	His	Trp	Leu	Arg	Gln	Ala	Pro	Gly	Gln	Gly	Leu
50						55					60				
Glu	Trp	Met	Gly	Tyr	Ile	Tyr	Pro	Tyr	Asn	Asp	Gly	Thr	Lys	Tyr	Asn
65					70					75					80
Glu	Lys	Phe	Lys	Gly	Arg	Val	Thr	Met	Thr	Ser	Asp	Thr	Ser	Ile	Ser
				85					90					95	
Thr	Ala	Tyr	Met	Glu	Leu	Ser	Ser	Leu	Arg	Ser	Asp	Asp	Thr	Ala	Val
			100					105						110	
Tyr	Tyr	Cys	Ala	Arg	Gly	Gly	Tyr	Tyr	Ser	Tyr	Asp	Asp	Trp	Gly	Gln
		115					120					125			
Ala	Thr	Leu	Val	Thr	Val	Ser	Ser	Gly	Gly	Gly	Gly	Ser	Asp	Ile	Val
	130					135					140				
Met	Thr	Gln	Ser	Pro	Leu	Ser	Leu	Pro	Val	Thr	Pro	Gly	Glu	Pro	Ala
145					150					155					160
Ser	Ile	Ser	Cys	Arg	Ser	Ser	Gln	Ser	Leu	Leu	His	Ser	Lys	Gly	Asn
			165						170					175	
Thr	Tyr	Leu	Gln	Trp	Tyr	Leu	Gln	Lys	Pro	Gly	Gln	Ser	Pro	Arg	Leu
		180						185					190		
Leu	Ile	Tyr	Lys	Val	Ser	Asn	Arg	Phe	Ser	Gly	Val	Pro	Asp	Arg	Phe
	195						200					205			
Ser	Gly	Ser	Gly	Ser	Gly	Thr	Asp	Phe	Thr	Leu	Lys	Ile	Ser	Arg	Val
	210					215					220				
Glu	Ala	Asp	Asp	Val	Gly	Ile	Tyr	Tyr	Cys	Ser	Gln	Ser	Thr	His	Val
225					230					235					240
Pro	Tyr	Thr	Phe	Gly	Gln	Gly	Thr	Lys	Leu	Glu	Ile	Lys			
				245					250						

<210> 112

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
oligonucleotide

<400> 112

Gly	Gly	Gly	Gly	Ser	Gly	Gly	Gly	Gly	Ser	Gly	Gly	Gly	Gly	Ser
1				5					10					15

<210> 113  
 <211> 502  
 <212> PRT  
 <213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
 plasmid

<400> 113

Met	Gly	Trp	Ser	Cys	Ile	Ile	Leu	Phe	Leu	Val	Ala	Thr	Ala	Thr	Gly	1	5	10	15
Val	Asp	Ser	Gln	Val	Gln	Leu	Val	Gln	Ser	Gly	Ala	Glu	Val	Lys	Lys	20	25	30	
Pro	Gly	Ala	Ser	Val	Gln	Val	Ser	Cys	Lys	Ala	Ser	Gly	Tyr	Thr	Phe	35	40	45	
Thr	Asn	His	Val	Ile	His	Trp	Leu	Arg	Gln	Ala	Pro	Gly	Gln	Gly	Leu	50	55	60	
Glu	Trp	Met	Gly	Tyr	Ile	Tyr	Pro	Tyr	Asn	Asp	Gly	Thr	Lys	Tyr	Asn	65	70	75	80
Glu	Lys	Phe	Lys	Asp	Arg	Val	Thr	Met	Thr	Ser	Asp	Thr	Ser	Ile	Ser	85	90	95	
Thr	Ala	Tyr	Met	Glu	Leu	Ser	Ser	Leu	Arg	Ser	Asp	Asp	Thr	Ala	Val	100	105	110	
Tyr	Tyr	Cys	Ala	Arg	Gly	Gly	Tyr	Tyr	Thr	Tyr	Asp	Asp	Trp	Gly	Gln	115	120	125	
Ala	Thr	Leu	Val	Thr	Val	Ser	Ser	Gly	Gly	Gly	Gly	Ser	Asp	Ile	Val	130	135	140	
Met	Thr	Gln	Ser	Pro	Leu	Ser	Leu	Pro	Val	Thr	Pro	Gly	Glu	Pro	Ala	145	150	155	160
Ser	Ile	Ser	Cys	Arg	Ser	Ser	Gln	Ser	Leu	Val	His	Ser	Asn	Gly	Lys	165	170	175	
Thr	Tyr	Leu	His	Trp	Tyr	Leu	Gln	Lys	Pro	Gly	Gln	Ser	Pro	Arg	Leu	180	185	190	
Leu	Ile	Tyr	Lys	Val	Ser	Asn	Arg	Phe	Ser	Gly	Val	Pro	Asp	Arg	Phe	195	200	205	
Ser	Gly	Ser	Gly	Ser	Gly	Thr	Asp	Phe	Thr	Leu	Lys	Ile	Ser	Arg	Val	210	215	220	
Glu	Ala	Asp	Asp	Val	Gly	Ile	Tyr	Tyr	Cys	Ser	Gln	Ser	Thr	His	Val	225	230	235	240
Pro	Tyr	Thr	Phe	Gly	Gln	Gly	Thr	Lys	Leu	Glu	Ile	Lys	Gly	Gly	Gly	245	250	255	



Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln Val Gln Leu  
                   260                  265                  270  
 Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala Ser Val Gln Val  
                   275                  280                  285  
 Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn His Val Ile His Trp  
                   290                  295                  300  
 Leu Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met Gly Tyr Ile Tyr  
                   305                  310                  315                  320  
 Pro Tyr Asn Asp Gly Thr Lys Tyr Asn Glu Lys Phe Lys Asp Arg Val  
                   325                  330                  335  
 Thr Met Thr Ser Asp Thr Ser Ile Ser Thr Ala Tyr Met Glu Leu Ser  
                   340                  345                  350  
 Ser Leu Arg Ser Asp Asp Thr Ala Val Tyr Tyr Cys Ala Arg Gly Gly  
                   355                  360                  365  
 Tyr Tyr Thr Tyr Asp Asp Trp Gly Gln Ala Thr Leu Val Thr Val Ser  
                   370                  375                  380  
 Ser Gly Gly Gly Gly Ser Asp Ile Val Met Thr Gln Ser Pro Leu Ser  
                   385                  390                  395                  400  
 Leu Pro Val Thr Pro Gly Glu Pro Ala Ser Ile Ser Cys Arg Ser Ser  
                   405                  410                  415  
 Gln Ser Leu Val His Ser Asn Gly Lys Thr Tyr Leu His Trp Tyr Leu  
                   420                  425                  430  
 Gln Lys Pro Gly Gln Ser Pro Arg Leu Leu Ile Tyr Lys Val Ser Asn  
                   435                  440                  445  
 Arg Phe Ser Gly Val Pro Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr  
                   450                  455                  460  
 Asp Phe Thr Leu Lys Ile Ser Arg Val Glu Ala Asp Asp Val Gly Ile  
                   465                  470                  475                  480  
 Tyr Tyr Cys Ser Gln Ser Thr His Val Pro Tyr Thr Phe Gly Gln Gly  
                   485                  490                  495  
 Thr Lys Leu Glu Ile Lys  
                   500

<210> 114

<211> 502

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
plasmid

&lt;400&gt; 114

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Met Gly Trp Ser Cys Ile Ile Leu Phe Leu Val Ala Thr Ala Thr Gly
 1           5           10           15

Val Asp Ser Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys
          20           25           30

Pro Gly Ala Ser Val Gln Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe
          35           40           45

Thr Asn His Val Met His Trp Leu Arg Gln Ala Pro Gly Gln Gly Leu
          50           55           60

Glu Trp Met Gly Tyr Ile Tyr Pro Tyr Asn Asp Gly Thr Lys Tyr Asn
          65           70           75           80

Glu Lys Phe Lys Gly Arg Val Thr Met Thr Ser Asp Thr Ser Ile Ser
          85           90           95

Thr Ala Tyr Met Glu Leu Ser Ser Leu Arg Ser Asp Asp Thr Ala Val
          100          105          110

Tyr Tyr Cys Ala Arg Gly Gly Tyr Tyr Ser Tyr Asp Asp Trp Gly Gln
          115          120          125

Ala Thr Leu Val Thr Val Ser Ser Gly Gly Gly Gly Ser Asp Ile Val
          130          135          140

Met Thr Gln Ser Pro Leu Ser Leu Pro Val Thr Pro Gly Glu Pro Ala
          145          150          155          160

Ser Ile Ser Cys Arg Ser Ser Gln Ser Leu Leu His Ser Lys Gly Asn
          165          170          175

Thr Tyr Leu Gln Trp Tyr Leu Gln Lys Pro Gly Gln Ser Pro Arg Leu
          180          185          190

Leu Ile Tyr Lys Val Ser Asn Arg Phe Ser Gly Val Pro Asp Arg Phe
          195          200          205

Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Lys Ile Ser Arg Val
          210          215          220

Glu Ala Asp Asp Val Gly Ile Tyr Tyr Cys Ser Gln Ser Thr His Val
          225          230          235          240

Pro Tyr Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys Gly Gly Gly
          245          250          255

Gly Ser Gly Gly Gly Gly Ser Gly Gly Gly Gly Ser Gln Val Gln Leu
          260          265          270

Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ala Ser Val Gln Val
          275          280          285

Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn His Val Met His Trp
          290          295          300

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Leu Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met Gly Tyr Ile Tyr  
 305 310 315 320  
 Pro Tyr Asn Asp Gly Thr Lys Tyr Asn Glu Lys Phe Lys Gly Arg Val  
 325 330 335  
 Thr Met Thr Ser Asp Thr Ser Ile Ser Thr Ala Tyr Met Glu Leu Ser  
 340 345 350  
 Ser Leu Arg Ser Asp Asp Thr Ala Val Tyr Tyr Cys Ala Arg Gly Gly  
 355 360 365  
 Tyr Tyr Ser Tyr Asp Asp Trp Gly Gln Ala Thr Leu Val Thr Val Ser  
 370 375 380  
 Ser Gly Gly Gly Gly Ser Asp Ile Val Met Thr Gln Ser Pro Leu Ser  
 385 390 395 400  
 Leu Pro Val Thr Pro Gly Glu Pro Ala Ser Ile Ser Cys Arg Ser Ser  
 405 410 415  
 Gln Ser Leu Leu His Ser Lys Gly Asn Thr Tyr Leu Gln Trp Tyr Leu  
 420 425 430  
 Gln Lys Pro Gly Gln Ser Pro Arg Leu Leu Ile Tyr Lys Val Ser Asn  
 435 440 445  
 Arg Phe Ser Gly Val Pro Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr  
 450 455 460  
 Asp Phe Thr Leu Lys Ile Ser Arg Val Glu Ala Asp Asp Val Gly Ile  
 465 470 475 480  
 Tyr Tyr Cys Ser Gln Ser Thr His Val Pro Tyr Thr Phe Gly Gln Gly  
 485 490 495  
 Thr Lys Leu Glu Ile Lys  
 500

&lt;210&gt; 115

&lt;211&gt; 4

&lt;212&gt; PRT

&lt;213&gt; Artificial Sequence

&lt;220&gt;

&lt;223&gt; Description of Artificial Sequence: Synthetic peptide linker

&lt;400&gt; 115

Gly Gly Gly Ser

1

&lt;210&gt; 116

&lt;211&gt; 4

&lt;212&gt; PRT

&lt;213&gt; Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic  
peptide linker

<400> 116  
Ser Gly Gly Gly  
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<210> 117  
<211> 5  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic  
peptide linker

<400> 117  
Ser Gly Gly Gly Gly  
1 5

<210> 118  
<211> 6  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic  
peptide linker

<400> 118  
Gly Gly Gly Gly Gly Ser  
1 5

<210> 119  
<211> 6  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic  
peptide linker

<400> 119  
Ser Gly Gly Gly Gly Gly  
1 5

<210> 120  
<211> 7  
<212> PRT  
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
peptide linker

<400> 120

Gly Gly Gly Gly Gly Gly Ser  
1 5

<210> 121

<211> 7

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
peptide linker

<400> 121

Ser Gly Gly Gly Gly Gly Gly  
1 5

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